

# **Nevada Experiments and Operations Program (N Program) Management Plan**

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*U.S. Department of Energy*

Lawrence  
Livermore  
National  
Laboratory

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# **Nevada Experiments and Operations Program (N Program) Management Plan**

**March 2000**

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[3/13/00] \_\_\_\_\_

Date



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## **Acronyms**

AA	Activity Agreement
AD	Associate Director
BEEF	Big Explosives Experimental Facility
BN	Bechtel Nevada
DAF	Device Assembly Facility
DNT	Defense and Nuclear Technologies
DOE/NV	Department of Energy/ Nevada Operations Office
DSED	Defense Sciences Engineering Division
DTED	Defense Technologies Engineering Division
DTRA	Defense Threat Reduction Agency
EMP	Emergency Management Program
ES&H	Environment, Safety, and Health
ETA	Experimental Test Accelerator
FSP	Facility Safety Plan
HEDP	High-Energy-Density Physics
HR	Human Resources
ISM	Integrated Safety Management
IWS	Integrated Work Sheet
JASPER	Joint Actinide Shock Physics Experimental Research
JTO	Joint Test Organization
LANL	Los Alamos National Laboratory
LLNL	Lawrence Livermore National Laboratory
N Program	Nevada Experiments and Operations Program
NIF	National Ignition Facility
NTO	Nuclear Test Operations
NTS	Nevada Test Site
OSP	Operational Safety Plan
QA	Quality Assurance
REOP	Real Estate and Operations Permit

RTBF	Readiness in Technical Base and Facilities
S&S	Safeguards and Security
SAR	Safety Analysis Report
SCE	Subcritical Experiment
SNL	Sandia National Laboratories
UC	University of California
WBS	Work Breakdown Structure
WSI	Wackenhut Services Incorporated
WSS	Work Smart Standard
YMPO	Yucca Mountain Project Office



## **1. Introduction**

The Nevada Experiments and Operations Program (N Program) is a programmatic element of the Defense and Nuclear Technologies (DNT) Directorate at Lawrence Livermore National Laboratory (LLNL). N Program provides the interface between LLNL and the U.S. Department of Energy's Nevada Operations Office (DOE/NV). Major responsibilities include managing and executing large experiments at the Nevada Test Site (NTS) in support of DOE's Stockpile Stewardship Program and meeting LLNL institutional commitments for activities in Nevada. N Program also manages the application of DOE/NV resources to LLNL activities, including the assets provided by the DOE/NV performance-based management and operating contractor, Bechtel Nevada (BN). Activities in Nevada take place either in North Las Vegas or at the NTS. A component of N Program's work is performed at other sites such as the LLNL Livermore and Site 300 locations.

By their very nature, N Program experiments usually involve potential hazards and risks that go well beyond those normally experienced by the general public. Materials associated with these experiments may have radioactive, toxic, and/or explosive properties. One component of the approach taken to manage these risks is to conduct the experiments at a remote location—the NTS being the site of choice. In reality, the NTS is the only U.S. site where many N Program activities may be conducted. Generally, other programmatic elements of the Laboratory conceive and design the experiments. N Program provides the vehicle for conducting the experiments, including preparation of the test site, installation and set-up of testing equipment, and provisions for operations and execution support.

### **1.1 Purpose**

This plan briefly describes the LLNL institutional structure and how N Program's organization fits within this structure, roles and responsibilities, and management processes that govern N Program activities. This plan also serves as the Integrated Safety Management (ISM) Implementation Plan for N Program work.

### **1.2 Scope**

This plan applies to all work performed by and for LLNL that falls under the oversight of DOE/NV except LLNL activities in support of the Yucca Mountain Project Office (YMPO).

## 2. LLNL Institutional Structure

LLNL is structured into 10 directorates, each headed by an Associate Director (AD). The various directorates have responsibilities for technical programs, personnel, facilities, and support services. Each directorate may have responsibilities in one or several of these categories. The DNT AD has a strong role in the first three areas, and has an additional responsibility for integrating other directorate program requirements at two LLNL sites outside the main Livermore site.

Four areas of directorate responsibility are defined in the LLNL *Integrated Safety Management System Description* (LLNL 1999):

- **Program:** The programs initiate work. Each program decides what work needs to be done to achieve its objectives, establishes priorities for the work, decides what cost level is acceptable for a given objective, and decides when the work must be completed.
- **Payroll:** The payroll organization accepts the work to be done for the programs. The payroll organization decides which job skills are required to perform the work, which employees to assign, whether work can be done safely, how long it will take to accomplish the scope of work, and how much the personnel will cost. The payroll organization establishes and maintains the personnel safety envelope.
- **Facility:** The facility organization accepts work into the facility or work area. This organization decides whether the proposed work meets governing requirements, decides when the facility or work area is available, coordinates projects to avoid/resolve safety and resource conflicts, and determines the necessary qualifications to perform work in the facility. The facility organization establishes and maintains the facility safety envelope.
- **Services:** Service organizations perform work autonomously. Work assigned to service organizations is analogous to contract work and is generally well-defined projects that require skilled trades or crafts. The service organization is responsible for the safety, quality, and schedule of its work, and assures the competence of its people.

In addition to the four basic areas of responsibility, the DNT AD functions as the Site AD for Site 300, the LLNL high-explosives firing site, and for LLNL-sponsored facilities and operations under DOE/NV oversight, primarily at the NTS but also at other appropriate locations. The site organization establishes the standards to which other directorate projects are executed and provides facility and service functions at Site 300 and in

Nevada for the broader LLNL user base. It assures that LLNL ISM elements are established and practiced at these remote locations.

### **3. N Program Description**

#### **3.1 N Program Structure**

The N Program Office consists of the Program Leader, Deputy Program Leader, Program Administrator, Resource Manager, and clerical staff. A small group of senior engineers, assigned directly to the Program Office, fulfills the roles of Test Directors and Nuclear Test Operations (NTO) Resident Manager.

As the majority of N Program's work is field operations and engineering, the bulk of the technical staff is matrixed to the Program from the Engineering Directorate. The NTO, a group of employees who support operations at the NTS, is a major component of the engineering staff assigned to support N Program by the Defense Technologies Engineering Division (DTED). Dedicated electronics engineering support is provided by the Defense Sciences Engineering Division (DSED). Additional engineering support, usually involving special skills and knowledge, is provided to the Program by the Engineering Directorate on an ad hoc basis.

Other Laboratory payroll directorates, such as Earth and Environmental Sciences, provide support to N Program on a sustained and/or ad hoc basis, as required.

Figure 1 shows an organization chart for N Program.

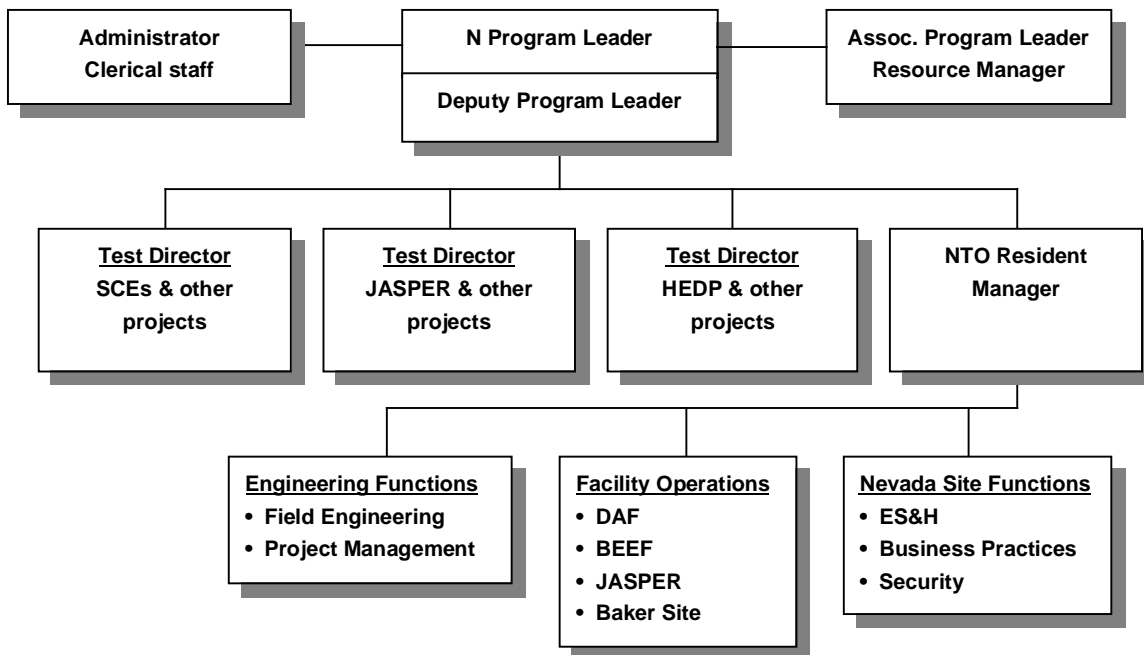


Figure 1. N Program organization chart.

## 3.2 DOE/NV Contractor Interfaces

### 3.2.1 *Bechtel Nevada*

BN provides considerable technical and craft manpower to support N Program activities in Nevada as well as at other DOE work sites. Some BN employees are assigned in a dedicated fashion to LLNL N Program activities; others are assigned on an ad hoc basis. In this capacity, BN serves the role as a payroll or service organization. For BN employees performing work at LLNL, N program functions as the payroll organization, accepting work from other LLNL Programs and allocating the appropriate BN resources to its execution. Although no direct contractual agreement exists between BN and LLNL, N Program assures the safe execution of project activities involving these two organizations through mechanisms described in this document. BN retains the payroll functions of assigning appropriately trained people to the work, determining costs and schedules, and ultimately assuring the safety of their employees.

### 3.2.2 *Wackenhut Services, Incorporated*

Wackenhut Services, Incorporated (WSI) is the DOE/NV security contractor and predominantly fulfills a service role in its interactions with LLNL. WSI also provides technical support in the field of communications systems.

### **3.3 Technical Focus Areas**

N Program is functionally organized around three primary technical areas. On the project side, a Test Director leads each focus area. Each focus area is currently a major component of the DNT Stockpile Stewardship experimental effort. The technical areas are:

- Subcritical Experiments (SCEs)

Conducted in the underground U1a Complex at the NTS, the LLNL SCE Program provides unique data on the material properties of plutonium when shocked by a high explosive detonation. The experiments are conducted in sealed chambers specifically designed to contain the expended plutonium during and after the detonation. Diagnostics are tailored to the specific experiments and can include holographic or radiographic imaging systems, high-speed rotary and image conversion cameras, a multi-channel Fabry–Perot velocimetry system, piezoelectric and contact pins, energy output measurements, and a variety of environmental sensors to support post-execution operations.

- JASPER Facility

Currently under development at Able Site in Area 27 of the NTS, the Joint Actinide Shock Physics Experimental Research (JASPER) Facility will provide a capability to evaluate properties of materials such as plutonium and uranium under extreme pressure conditions. The heart of the facility is a specially configured two-stage gas gun. The facility is scheduled for completion in 2001. LLNL leads this development activity. Following start-up, the NTO will manage and operate JASPER.

- High-Energy-Density Physics

High-energy-density physics (HEDP) experiments are planned for the National Ignition Facility (NIF) in support of the Stockpile Stewardship mission. N Program manages the BN resources applied to this effort and is also tasked with the development and construction of HEDP x-ray and neutron diagnostics for the NIF target chamber system. Additional activities include the development of new radiographic techniques on such facilities as the Experimental Test Accelerator (ETA).

In addition to these primary assignments, each Test Director may take on other project assignments, including:

- High explosives testing.
- High explosives/ nuclear explosives operations, including assembly, disassembly, storage, handling, and transportation (onsite at NTS).
- Timing and firing.
- Experiment diagnostics, including high-speed optical and radiographic systems, and radiation measurements.
- Development of improved radiographic sources.

The Program Office maintains a current list of N Program projects and operations. This list identifies the responsible senior N Program manager and key requirements documentation for each project.

### **3.4 Facility Focus Areas**

LLNL has exclusive use of various low- and moderate-hazard facilities and rooms at several locations in North Las Vegas and at the NTS. In addition, LLNL manages four major operations facilities for appropriate user communities. Facility management and operations is assigned to the NTO Resident Manager, who further assigns a Facility Manager or other facility point of contact, as required. Details are provided in Section 5.6.

### **3.5 Nevada Site Operations**

N Program is the institutional representative for LLNL activities at the NTS. This site management responsibility is described in detail in Section 5.5.

## **4. Roles and Responsibilities**

The DNT AD is accountable to the Laboratory Director for ensuring that programmatic goals are met and that DNT program, facility, and payroll activities are performed in accordance with LLNL environment, safety, and health (ES&H) requirements (LLNL 2000). For LLNL work that is performed using DOE/NV resources, the DNT AD assigns these responsibilities to the N Program Leader.

The N Program Leader assigns responsibility for meeting LLNL ES&H requirements through two primary mechanisms: (1) Project work is assigned to the responsible Test Director or NTO Resident Manager; and (2) ES&H responsibility for all other activities

at the NTS, such as facility operations, is assigned to the NTO Resident Manager. In each case, the responsible individual may further assign ES&H responsibilities to lead individuals (e.g., supervisor, group leader, or lead/project engineer) at the facility and activity level. This approach is incorporated into the definitions of responsibilities that follow.

#### **4.1 Program Leader/Deputy Program Leader**

The N Program Leader reports directly to the DNT AD and is assigned programmatic, payroll, and facility responsibilities. The Deputy Program Leader supports the Program Leader in carrying out these responsibilities and is authorized to act in his/her stead. Responsibilities include:

- Define the scope of programmatic work, including establishing the technical objectives.
- Define the LLNL mission for DOE/NV resources, translate the mission into work, set expectations, and establish priorities.
- Allocate sufficient resources (both LLNL and DOE/NV) to ensure safe and compliant operations, including safety training.
- Assure operational, safety, and administrative integration with DOE/NV and its contractors.
- Provide input to DOE/NV for the periodic performance evaluation of BN.
- Conduct self-assessments to evaluate program ES&H and quality assurance (QA) issues, consistent with the requirements of the DNT Self-Assessment Plan (DNT 1999a).
- Implement the QA requirements set forth in the DNT QA Plan (DNT 1995) within N Program.
- Assure safety and performance standards are established prior to authorizing work.
- Assure that personnel involved in an activity have the opportunity to participate in the development of work controls for that activity.
- Clearly define the responsibilities of key positions of the program.
- Serve as a DOE/NV designated official for purposes of providing technical direction to DOE/NV contractor employees consistent with the provisions of their contracts (see Section 5.3.1).

- Assure that the management chain is defined for each work activity.
- Assure the implementation of a lessons-learned program consistent with LLNL policy and requirements.

## **4.2 Test Director**

A Test Director is a member of the N Program senior staff. His/her primary responsibility is to manage and execute major LLNL projects that use DOE/NV resources. He/she will:

- Integrate the efforts of a multidisciplinary team of scientists, engineers, and technical staff in planning and executing major experiments/tests.
- Serve as the LLNL point-of-contact for DOE/NV on assigned projects.
- Serve as a DOE/NV designated official for purposes of providing technical direction to DOE/NV contractor employees consistent with the provisions of their contracts (see Section 5.3.1).
- Exercise line management responsibility for safety at the project level, including:
  - Prepare a project plan, which includes the development and maintenance of the project budget and schedule.
  - Assure that the hazards associated with the project are identified and clearly understood.
  - Assure that tailored controls are developed for each hazard associated with the work activity. This includes involving the worker in the development of the controls.
  - Approve the work controls, including assuring that all required project documentation is prepared and approved for use in a timely manner.
  - Assure that all required technical, operational, prestart, and safety reviews are completed consistent with the project schedule.
  - Assure that work is performed in accordance with approved controls.
  - Assure that lessons learned for a given project or activity are captured and incorporated as necessary into future projects.
  - Assure that personnel who work on the project have the necessary training and qualifications for their assignments.



- Serve as the principal safety officer for the project.
- Execute signature authority for N Program accounts up to \$100K.
- Assure that accidents and injuries are properly reported.
- Be able to qualify for the Personnel Assurance Program.

Certain projects conducted at the NTS are narrowly focused and are not closely related to the Stockpile Stewardship Program mission of most N Program projects. The N Program Leader may choose to assign project management responsibility for this type of project to an individual who is qualified as a Test Director only for the limited scope of the project. The responsibilities of this so-called “Limited-Scope Test Director” are the same as those of the Test Director.

#### **4.3 Nevada Test Organization Resident Manager**

The NTO Resident Manager is the Site Manager for LLNL activities conducted in Nevada. He/she is also a Section Leader in DTED. Thus, he/she has certain payroll directorate responsibilities that are assigned by DTED. The listing below defines only the programmatic responsibilities assigned by N Program:

- Provide site support for the implementation of Integrated Safety Management into LLNL activities at DOE/NV Nevada locations.
- Maintain and oversee ES&H functions that are required for the safe and responsible work of LLNL at DOE/NV Nevada locations.
- Assure the availability and accessibility of LLNL and DOE/NV Nevada assets to LLNL users.
- Provide LLNL concurrence for work authorization in Nevada.
- Oversee all NTS facility operations for which N Program has management responsibility.
- Interface with DOE/NV as a representative of N Program.
- Serve as a DOE/NV designated official for purposes of providing technical direction for DOE/NV contractor employees consistent with the provisions of their contracts (see Section 5.3.1).
- Serve as the LLNL Operations Officer to the DOE/NV Joint Test Organization.

- Create and maintain all documentation required for N Program operations at the NTS.
- Assume content responsibility for Volume VI: “Nevada Requirements” of the LLNL *ES&H Manual*.
- Manage the incident and occurrence reporting process for LLNL operations at the NTS.
- Manage the lessons learned program for N Program.
- Conduct self-assessments to evaluate the status of ES&H and QA issues associated with LLNL operations at the NTS, consistent with the requirements of the DNT Self-Assessment Plan (DNT 1999a).
- Execute signature authority for N Program accounts up to \$100K.
- Serve on the N Program senior staff and take on any special assignments as required.

#### **4.4 Facility Manager**

The DNT AD serves as the Facility AD for several facilities at the NTS. N Program is assigned facility management responsibilities for those facilities. The Facility Managers are accountable to the NTO Resident Manager for assuring that facility operations are performed safely. Each Facility Manager will:

- Establish and maintain the facility safety envelope, including development of all facility safety and operating documentation (e.g., Facility Safety Plans [FSPs], Operational Safety Plans [OSPs], etc.).
- Assure that personnel performing work in the facility are adequately qualified.
- Assure that the work authorization process for facility and project work is properly executed.
- Assure that facility work is performed in accordance with approved work controls.
- Assure that proper and adequate ES&H support is available consistent with the requirements of the work being performed.
- Participate in post-operation evaluations and assure that lessons-learned results are incorporated into facility operations.

- Periodically review work areas and operations for ES&H and QA compliance by formal and informal self-assessments, consistent with the requirements of the DNT Self-Assessment Plan (DNT 1999a).
- Implement the QA requirements set forth in the DNT QA Plan (DNT 1995) within the facility. A facility-specific QA plan may be required.

#### **4.5 Project Leader**

The N Program Leader or Test Director may designate project status to a component of programmatic work to be performed at the NTS or other work sites. The assigned Project Leader will:

- Serve as the LLNL point-of-contact for DOE/NV on assigned projects.
- Exercise line management responsibility for safety at the project level, including:
  - Prepare a project plan, which includes the development and maintenance of the project budget and schedule.
  - Assure that the hazards associated with the project are identified and clearly understood.
  - Assure that tailored controls are developed for each hazard associated with the work activity. This includes involving the worker in the development of the controls.
  - Approve the work controls, including assuring that all required project documentation is prepared and approved for use in a timely manner.
  - Assure that all required technical, operational, prestart, and safety reviews are completed consistent with the project schedule.
  - Assure that work is performed in accordance with approved controls.
  - Assure that lessons learned for a given project or activity are captured and incorporated as necessary into future projects.
  - Assure that personnel who work on the project have the necessary training and qualifications for their assignments.
- Execute signature authority for N Program accounts up to the dollar level that is authorized for the project.
- Assure that accidents and injuries are properly reported.

## **4.6 Technical Supervisor**

Technical supervisors direct or oversee work at the activity or facility level. A technical supervisor may have other responsibilities assigned by his/her payroll organization. A technical supervisor will:

- Assure that personnel have the qualifications necessary for their job assignment, including safety training.
- Assure that tailored controls are developed for each hazard associated with the work activity. This includes involving the worker in the development of the controls.
- Assure that work is performed in accordance with defined work controls (e.g., governing procedures, safety documents, etc.).
- Assure that accidents and injuries are properly reported.

## **4.7 Individual Worker**

Each individual who performs work for N Program is responsible to:

- Ensure his/her own safety and safety of others who could be impacted by his/her actions.
- Bring to the attention of his/her immediate supervisor safety concerns, problems with the applicable operating limits and/or controls, and opportunities for improvement associated with the work or governing procedure(s).
- Participate in the development of work controls relevant to his/her particular assignment.
- Stop work if there is an unsafe or unapproved condition.
- Ensure that accidents and injuries are properly reported.
- Possess the necessary skills, knowledge, and abilities (SKAs), including physical capabilities, to carry out assigned tasks.

## **4.8 Special Positions**

### ***4.8.1 Scientific Advisor***

The Scientific Advisor chairs the DOE/NV Test Controller's Scientific Advisory Panel, which convenes for each nuclear test and subcritical experiment. The panel advises the

Test Controller on experiment features that could impact the safety of on-site and off-site populations and recommends actions as appropriate. Candidates are nominated by the N Program Leader and approved by the DOE/NV Manager. The Scientific Advisor will:

- Understand the technical and scientific aspects of each experiment, including safety and control procedures.
- Consult with individuals, Laboratories, and participating agencies involved in the execution of each experiment, as required, to advise and recommend action to the Test Controller to assure safety in experiment execution.
- Participate in documentation of the panel's action by providing input and reviewing minutes of panel meetings.

#### **4.8.2 Associate Program Leader**

The Associate Program Leader serves as the primary interface between N Program and DOE/NV and between N Program and BN for administrative and budgetary matters. The Associate Program Leader will:

- Represent N Program in the process to manage DOE/NV resources that are directed toward the accomplishment of Stockpile Stewardship missions.
- Represent N Program in the DOE/NV evaluation of BN's performance.
- Participate in the DOE/NV out-year budget development process.
- Manage the N Program component of the Readiness in Technical Base and Facilities (RTBF) Plan.
- Serve as the N Program point-of-contact for the LLNL Stockpile Stewardship campaign efforts.

### **4.9 Engineering Directorate**

The Engineering Directorate is the principal payroll directorate for N Program. N Program expects the engineering divisions to fulfill the following responsibilities:

- Matrix personnel to N Program assignments who have the necessary skills, knowledge, and abilities (SKAs) to successfully and safely perform their assignments.
- Provide management approval for actions and decisions made by matrixed Engineering personnel.

- Establish, maintain, and apply design standards and criteria that assure compliance with the *ES&H Manual* (LLNL 2000).
- Assure that the work of its personnel meets the standards and requirements established for the work. Conduct design reviews and assessments to assure compliance.
- Develop and maintain execution plans for each project or support activity.
- Involve N Program management in its evaluation of the performance of its personnel who support N Program.

#### **4.10 Bechtel Nevada**

BN is the principal DOE/NV contractor interacting with LLNL. N Program expects BN to fulfill the following:

- Assign personnel to N Program who have the necessary skills, knowledge, and abilities (SKAs) to successfully and safely perform their assignments.
- Provide management approval for actions and decisions made by assigned personnel.
- Use design standards and criteria as specified by LLNL.
- Assure that the work of its personnel meets the standards and requirements established for the work. Participate in design reviews and assessments to assure compliance.
- Develop and maintain execution plans for each project or support activity.
- Solicit input from appropriate LLNL program and project managers in its evaluation of the performance of its personnel who support N Program.
- Provide accurate, relevant, and timely reports to LLNL on technical accomplishments, project status, and cost.
- Maintain change control processes to track changes in scope, schedule, and budget.

#### **4.11 Wackenhut Services, Incorporated**

As a service organization, WSI is responsible for the safety, quality, and schedule of its work, and assures the competence of its people.

## **5. Management Elements**

The following sections describe the principal elements or requirements of N Program's management program.

### **5.1 Integrated Safety Management Requirements**

N Program embraces the LLNL safety goal, which is to “continuously strive for a healthy, accident free, and environmentally sound workplace and community while providing the scientific and technical excellence needed to meet critical national missions” (LLNL 1999). In this goal, safety is used synonymously with environment, safety and health to encompass protection of the public, the workers, and the environment.

The LLNL fundamental guiding ISM principle is that each worker, supervisor, and manager is directly responsible for ensuring his/her own safety and promoting a safe, healthful, and environmentally sound workplace and community.

DOE has defined five Core Functions for ISM that comprise the underlying process for any work activity that could potentially affect the public, the workers, and the environment. They are by title:

1. Define the scope of work
2. Analyze the hazards
3. Develop and implement hazard controls
4. Perform the work within controls
5. Provide feedback and continuous improvement

DOE has defined seven Guiding Principles that are the fundamental policies for DOE and its contractors to use in the management of safety. They are by title:

1. Line management responsible for safety
2. Clear roles and responsibilities
3. Competence commensurate with responsibilities
4. Balanced priorities
5. Identification of safety standards and requirements
6. Hazard controls tailored to work being performed
7. Operations authorization

The LLNL institutional approach to ISM is established in the LLNL *Integrated Safety Management System Description* (LLNL 1999). ISM implementation for N Program is established at the high level through the DNT *Integrated Safety Management Implementation Plan* (DNT 1999b). This document, the N Program Management Plan, serves as the specific ISM implementation plan for the work of N Program. Attachment 1, the N Program ISM Requirements Matrix, assesses how N Program addresses the Laboratory requirements consistent with DNT implementation actions.

DOE/NV has established its commitment and approach to integrating ISM throughout the DOE/NV complex through the issuance of its *Safety Management System Policy*, which serves as the DOE/NV ISMS Description (DOE 1999h). In it, DOE/NV recognizes LLNL as a primary user of the NTS.

## **5.2 Work Smart Standards**

LLNL is contractually required to operate consistent with the terms of Prime Contract W-7405-ENG-48, the agreement by which the University of California (UC) operates the LLNL for the DOE. Contract 48 requires adherence to all applicable laws, regulations, orders, and directives in the performance of work. The standards and requirements by which LLNL performs work are established in a set of Work Smart Standards (WSS), which are listed in Appendix G of Contract 48.

DOE/NV has defined a set of standards and requirements that form the basis for performing work at the NTS. In a letter to the Director of LLNL, DOE/NV affirms its policy "...that all LLNL personnel working at DOE/NV facilities must comply with all applicable DOE/NV policies; Orders and Directives: federal laws and regulations; and state and local laws relating to ES&H, [Safeguards & Security], [Emergency Management Program], and QA including DOE/NV Work Smart Standards (WSS) or other applicable DOE/NV approved standards" (DOE 1999f). An effort is under way to identify the differences between the LLNL WSS and DOE/NV standards sets and to develop a mechanism for resolving the differences (see Section 5.2.1). Additional standards will be incorporated in the proper context into the WSS set in Contract 48.

LLNL has established the ES&H Manual as the source document for ES&H-related performance requirements and policy information that is to be used in the conduct of Laboratory work. Work performed in conformance with the ES&H Manual meets the requirements of the LLNL WSS set. Unique requirements that apply to work in Nevada have been incorporated into Volume VI of the ES&H Manual, "Nevada Requirements." The ES&H Manual includes provisions to authorize work that is not explicitly covered by the contents of the Manual.



### **5.2.1 Authorization for Interim Operations**

While LLNL and DOE/NV are developing appropriate WSS for LLNL activities currently exempted or otherwise excluded from the DOE/NV WSS set, it is necessary to provide standards and procedures to assure the safety of those operations. WSS that differ from the currently approved LLNL set will be reviewed and approved by the Change Control Group.

Interim operations will be conducted in accordance with the following documents:

- NTO Administration Plans and Procedures Manual.
- NTO Environment, Safety, and Health Plans and Procedures Manual (LLNL ES&H Manual, Volume VI).
- Area 27–Baker Site Safety Plan.
- Big Explosives Experimental Facility Safety Plan.
- Device Assembly Facility plans and procedures.
- SCE procedures.

Operations conducted in accordance with the above documents will meet the additional requirements of applicable DOE/NV WSS as well as supplemental lists of DOE and DOE/NV directives, which are applicable to work categories that were exempt from the 1995 DOE/NV application of WSS, known as the B-2 and B-3 lists.

## **5.3 Relationship with DOE/NV**

DOE/NV uses several mechanisms to assign authority and responsibility to LLNL for the control of programmatic work at the NTS. Although DOE/NV does not have a direct contractual relationship with LLNL (or the UC), a management agreement between DOE/NV and the DOE Oakland Operations Office (DOE/OAK, formerly the San Francisco Operations Office) enables DOE/NV to establish responsibilities and requirements and to exercise oversight for LLNL activities in Nevada (DOE 1990).

### **5.3.1 Delegation of Designated Officials**

Delegation letters between the Manager, DOE/NV and the Director of LLNL assign certain authorities and responsibilities to LLNL personnel for specific activities at the NTS (DOE 1999d, e, i). These letters identify LLNL personnel in several job assignments as “Designated Officials of DOE/NV,” which authorizes them to provide performance direction for BN and other contractor activities. This assignment focuses on the

establishment of safety programs and the conduct of operations. Specific duties relating to the LLNL–BN interface include providing technical direction, monitoring technical compliance, and resolving technical differences. The N Program Leader nominates LLNL personnel for these assignments.

Technical direction is defined as instructions necessary to execute authorized work in order to meet program objectives. Technical direction may not result in violation of laws, directives, orders, policies, or contractual provisions, nor may it cause the contractor to incur costs beyond the level authorized by DOE/NV for the overall Laboratory program or beyond the level authorized for a specific scope of work. Limited technical direction further restricts authorized changes to those within the specific project budget authorization. Designated officials may reassign this authority to assure “full and open communication between the functional counterparts of the DOE, the National Laboratories, and the contractor organization. Such communication will facilitate a clear and consistent understanding of the technical and performance requirements of the work and will result in accomplishment of the work in a highly professional, coordinated, efficient, and cost-effective manner” (DOE 1996).

The management and operation of DAF and BEEF and the conduct of test readiness activities are currently governed by such delegation letters. These letters are subject to regular review and revision. New letters may be established as required by programmatic requirements.

### ***5.3.2 Activity Agreements***

Activity Agreements (AAs) executed between the Manager of DOE/NV and the DNT AD define facilities and activities at the NTS (and potentially at other NV sites) for which LLNL is given management and safety coordination responsibility (DOE 1999a–c). These agreements establish that LLNL is assigned to manage specified facilities. They further define roles and responsibilities for each organization supporting the operation of the facilities and the execution of work. Each organization retains responsibility for the qualification, competence, and safety of its employees but may be required by LLNL to provide appropriate evidence of compliance. For LLNL operations, the issuance of a Real Estate/Operations Permit signifies DOE/NV recognition of the completion of the required LLNL safety planning and documentation.

### ***5.3.3 Real Estate/Operations Permits***

The Real Estate/Operations Permit (REOP) is the mechanism by which DOE/NV authorizes an NTS user organization to conduct well-defined activities associated with

managing and operating a facility or executing a project operation. The REOP is similar to a license to operate (DOE 1999g).

#### **5.4 Payroll and Technical Staff Management**

N Program serves as the payroll organization for employees assigned from the DNT Directorate (Payroll Account 9800), including the Program Leader, Deputy Program Leader, Resource Manager, Administrator, and clerical staff. Although performance assessment and salary management remain the responsibility of the home directorate, N Program provides necessary input.

N Program also represents DOE/NV as the payroll organization for DOE/NV contractor personnel performing work at LLNL. Responsibilities include establishing and maintaining the personnel safety envelope by assuring that training plans are developed and completed, necessary safety equipment is available, and execution plans are prepared. These responsibilities are defined through a Memorandum of Understanding between LLNL and BN to ensure that responsibilities are clearly understood. On behalf of the DOE/NV Manager, N Program evaluates work requests and execution plans to assure that the assigned DOE/NV contractor personnel can perform the work safely and adequately. N Program approval or concurrence is required on any execution plan, OSP, or Integrated Work Sheet (IWS) involving DOE/NV contractor personnel at LLNL.

#### **5.5 Site Management**

For purposes of work authorization and safety management, LLNL considers its DOE/NV facilities in Nevada to be a site. A site is a logical grouping of facilities, locations, and activities assigned to a directorate for oversight of all LLNL activities. Operations at a designated site or included facility are exempt from the LLNL off-site OSP policy. An off-site OSP is neither required nor allowed for work authorization and safety management. Instead, the normal OSP, FSP, and IWS are prepared and submitted to the cognizant directorate for approval. Both LLNL sites, NTS and Site 300, are assigned to DNT. In this context, the NTO Resident Manager serves as “Site Manager” for LLNL activities in Nevada.

In the case of DOE/NV resources assigned to support LLNL programmatic objectives, the DNT AD and the DOE/NV Manager have designated the N Program Leader as the responsible manager for work authorization, safety management, and personnel oversight. Following the work authorization process (see Section 5.10) and the payroll/technical staff description in Section 5.4, N Program must approve or concur on all OSP, FSP, and IWS for work involving DOE/NV assets. N Program will approve

application for and will hold any DOE/NV REOP for LLNL activities in Nevada or for use of DOE/NV resources on other LLNL activities.

N Program assures the DOE/NV Manager that approved LLNL operations comply with the LLNL ES&H Manual, WSS, applicable DOE/NV orders and regulations, and other requirements. In addition, these operations are properly integrated into DOE/NV coordinating, monitoring, assessment, and reporting systems. N Program will assign a senior manager (Test Director or NTO Resident Manager) to each project activity. The NTO Resident Manager is assigned overall responsibility for all other activities.

## **5.6 Facility Management**

LLNL has exclusive use of various low- and moderate-hazard facilities and rooms at several locations in North Las Vegas and at the NTS. In addition, LLNL manages four major operations facilities for appropriate user communities. Facility management and operations is assigned to the NTO Resident Manager, who further assigns a Facility Manager or other facility point of contact, as required.

### **5.6.1 Major LLNL Facilities at NTS**

Certain facilities and sites are used to conduct complex experiments and operations at the NTS. These include both the facilities where the experiments are prepared and staged and the testing sites. From the start of its involvement in nuclear explosives testing at the NTS, LLNL has directly managed and operated these major facilities and sites as an integral part of its safe and successful conduct of operations. This philosophy continues today, with N Program managing and operating NTS facilities that are key to the execution of certain DNT projects. Formal DOE/NV recognition of LLNL authorities at these facilities is documented in the Activity Agreements (see Section 5.3.2). Facilities that are managed and operated by N Program include:

- **Big Explosives Experimental Facility:** BEEF is a hydrodynamics test facility similar to those located at the LLNL Site 300. Tests involving thousands of pounds of high explosives may be executed.
- **Device Assembly Facility:** The DAF is the NTS facility that is approved for the conduct of nuclear explosive assembly operations. It is jointly operated by LLNL and LANL, with the Laboratory of the Facility Manager (currently an LLNL employee) having principal management responsibility.
- **Baker Site:** Located in Area 27, Baker Site is approved for high explosive assembly and staging operations.

- **Joint Actinide Shock Physics Experimental Research Facility:** JASPER is a two-stage light-gas gun facility that is designed for experiments involving actinide targets. The facility is currently being developed, with completion expected in 2001. (An Activity Agreement will be developed prior to authorization to operate.)

### **5.6.2 Other NTS Facilities**

N Program has facility management responsibility for a number of general-purpose buildings or facilities at the NTS. These include all or portions of office buildings, warehouses, technical work spaces, and other areas. In total, LLNL has a proprietary interest in about 35 such facilities.

### **5.6.3 Facilities Managed by Other Organizations**

LLNL also conducts experimental activities in NTS facilities that are managed and operated by other organizations. Examples include the U1a underground test complex, which is operated by LANL; and the HAZMAT Spill Facility, which is operated by BN.

## **5.7 Representation in Joint Test Organization**

N Program is the LLNL representative to the DOE/NV Joint Test Organization (JTO). The JTO was established to facilitate a cooperative working environment among the primary user organizations of the NTS. It serves as a forum for working issues of mutual interest, such as schedule interactions, and the sharing of commonly used assets for the sake of economy. A mutually approved charter is in place, naming the DOE/NV Assistant Manager for National Security as the cognizant federal official. The other members of the JTO are LANL, SNL, and the Defense Threat Reduction Agency (DTRA). The N Program Leader serves as the senior LLNL JTO representative; the NTO Resident Manager serves as the LLNL JTO Operations Officer.

## **5.8 Funding/ Balanced Priorities**

N Program accomplishes its assigned responsibilities through the management and expenditure of resources. The N Program Leader is responsible for maintaining a balance of priorities, assuring safety, while meeting programmatic requirements within security and other constraints.

### **5.8.1 Direct Funding**

DNT provides the majority of funding for the execution of N Program work by Laboratory personnel. The primary source of this funding is DOE Defense Programs,

with funds coming to DNT from both DOE Headquarters (e.g., DP-10) and DOE/NV. The latter funding assures the following skills and services are available for execution of projects in the DOE/NV interest:

- Test Directors.
- NTO Resident Manager.
- ES&H support.
- Security advisor.
- Shipping, receiving, logistics support.
- High explosives, special nuclear material, and nuclear explosives services.
- Timing and firing expertise.
- Bunker operations.

In addition, a small amount of Work-for-Others funding comes to N Program through DNT each year. Finally, other LLNL programs may fund N Program effort in support of special projects that are conducted at the NTS.

#### ***5.8.2 LLNL-Directed DOE/NV Funding***

A large portion of the effort to accomplish DNT DP objectives is supplied by BN. LLNL defines the program objectives to be supported by BN. BN then staffs appropriately to the program requirements and consistent with funding available through DOE/NV. N Program has the responsibility to oversee the management of these LLNL program resources. N Program works with DOE/NV and BN management to develop objectives and deliverables, allocate funding, track expenditures, and evaluate results.

### **5.9 Hierarchy of Documents**

DNT has defined a hierarchy for the documents that establish and implement the requirements of its ISM program. As a program element of DNT, N Program draws upon this approach to define the hierarchy of documents that control its work. This hierarchy is illustrated in Figure 2.

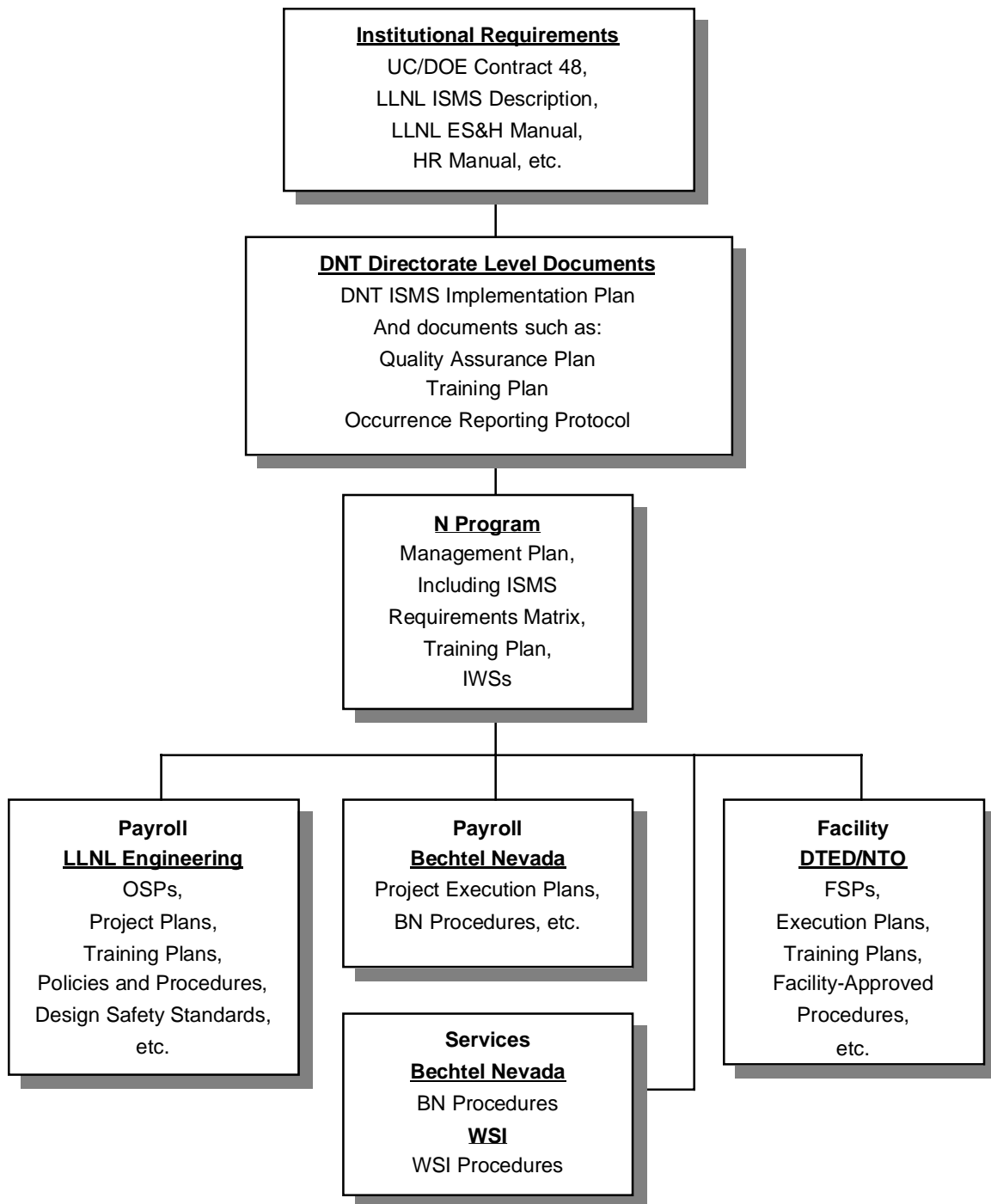


Figure 2. Hierarchy of documents.

## **5.10 Work Authorization Process**

### ***5.10.1 Flowdown of Requirements***

The scope of work in support of DOE/DP at LLNL is developed jointly by the senior Laboratory national security Associate Directors and DOE Defense Programs. The DNT Program Leaders then determine and prioritize how DOE/NV resources will be used to accomplish defined objectives. N Program works in concert with DOE/NV and the other user Laboratories to establish a balanced plan for the effective use of Nevada resources, including personnel, facilities, and equipment. DOE/NV defines the budget allocations for its operations and security contractors that are to be directed toward accomplishing Laboratory programs.

It is N Program policy that each LLNL activity that uses DOE/NV resources have a single N Program point of contact that represents the activity in the Nevada arena. For each major experimental or project activity, the N Program Leader assigns this project management responsibility to a Test Director. Likewise, the N Program Leader assigns responsibility for oversight of all other activities, including the operation of LLNL-managed NTS facilities, to the NTO Resident Manager. The program element develops activity-level requirements for the safe and effective conduct of project and facility operations. The payroll organizations (BN and LLNL Engineering) then develop execution plans for their component of the work and assign resources.

### ***5.10.2 Line Management Responsibility for Safety***

N Program defines the management chains responsible for the safe execution of its work. For N Program activities, this generally takes two forms. For experimental or developmental project activities, responsibility passes from the N Program Leader to the Test Director and then to the Project Leader. For other operational activities and for institutional activities at the NTS (such as the LLNL management of NTS facilities), responsibility passes from the N Program Leader to the NTO Resident Manager to the Project Leader or Facility Manager. When acting in this capacity, the LLNL Test Directors and the NTO Resident Manager are assigned the role of “Designated Official” by the DOE/NV Manager. As such, they are responsible for establishing overall safety programs for the assigned activity and are empowered to provide technical direction to BN.



### **5.10.3 Elements of the Authorization Process**

The LLNL work authorization processes are established in Section 7 of the LLNL *Integrated Safety Management System Description* (LLNL 1999). DOE/NV authorization to operate NTS facilities and perform work is granted through the issuance of a REOP (see Section 5.3.3).

#### **5.10.3.1 Facility Operations**

Four LLNL-operated facilities at the NTS have a hazard categorization that is higher than that of general industry. Work at BEEF and Baker Site can involve explosives and radiological materials. Work at DAF can involve explosives, fissile, and radiological materials. Work at JASPER will involve small quantities of actinide materials, explosives, and gun propellants. Each facility will be operated with controlling documentation that is consistent with the categorization level of the facility.

#### **5.10.3.2 Work Activities**

Work activities with hazard levels beyond those commonly experienced by the public or outside an approved authorization basis are performed in accordance with the requirements of OSPs, which address hazards and define work controls. The sponsor of the activity submits an IWS as a request for permission to conduct the activity. Laboratory authorization is granted through signature of the IWS at the appropriate level of the management chain, which includes the concurrence of the NTO Resident Manager for all work in Nevada.

## **5.11 Qualification of Personnel**

Personnel who work on N Program projects and/or in facilities managed and operated by N Program must be qualified to perform the work to which they are assigned. This requirement applies to LLNL and contractor employees alike. In this context, the term “qualification” includes the requirements relating to the skills, knowledge, and abilities (SKAs) necessary to competently and safely perform the assigned work.

### **5.11.1 Qualification Requirements**

The principal source of N Program qualification requirements is the *N Program Training and Qualifications Plan* (N-Prog 1997). It addresses policy, process, and responsibilities associated with establishing a workforce that is qualified to perform the work of N Program. Formal training and qualification requirements are identified for many N Program work assignments. Training requirements are defined, recorded, tracked, and

maintained using the institutional database system, LTRAIN. All N Program requirements and currency of training will be based on the LTRAIN database as the official record.

Several other sources define qualification requirements for N Program operations personnel:

- Project and facility-specific training and qualification requirements are defined in specific OSPs, FSPs, and training plans.
- The NTO *Training and Qualifications Procedure* (NTO 2000) establishes training and qualifications requirements for LLNL personnel who perform work at the NTS. It applies to both Nevada- and Livermore-based employees. Furthermore, it establishes the NTO approach to addressing training and qualification issues across the interface with BN, primarily as it relates to BN employees who work in support of LLNL activities.
- Qualification requirements to work on a project or in a facility of another organization may be established by that organization.

#### ***5.11.2 Role of the Payroll Organization***

N Program expects the payroll organization to provide personnel who have the necessary SKAs and safety-related training to perform the work of the program safely and competently. Attaining necessary or special SKAs and safety-related training, and maintaining a needed qualification status (e.g., required refresher training) are all considered to be a part of the job assignment. It is expected that the payroll organization will effectively manage this responsibility so that their personnel are properly qualified when they undertake N Program assignments.

### **5.12 Design Requirements**

Work performed by or for N Program will conform to the design standards and practices of the LLNL Mechanical Engineering and Electronics Engineering departments (ENG 1993b, 1997, 2000). All work authorized by Engineering employees or by BN employees acting under their direction will meet these standards and will have the approval of Engineering management. The Engineering Directorate shall conduct design reviews and QA audits as appropriate to assure compliance. Any decision to override Engineering standards or review findings shall be concurred with by the appropriate N Program representative and shall not result in a violation of applicable WSS or allow an unacceptable risk to the environment, safety, or health.

In the case of work performed by and for other programs, other standards consistent with the LLNL WSS may be applied subject to the approval of the cognizant N Program manager. N Program will employ the expertise of the Engineering Directorate in determining the adequacy of the proposed standards.

#### ***5.12.1 Engineering Design Review Records***

The division or directorate that sponsors an engineering design review is responsible for documenting the outcome of the review in a design review report. This report defines action items and assigns them to a responsible individual. The resolution of each action item is documented, as is the record of acceptance by the Design Review Committee. These records are kept on file by the sponsoring Engineering organization. The requirements for design reviews and the resulting documentation are defined in Engineering Directorate documents (ENG 1993b, 1997).

#### ***5.12.2 Drawing and Sketch Control***

Drawings or sketches shall be in conformance with LLNL Engineering standards and practices or the equivalent BN requirements. Modifications to safety or mission-critical equipment will be documented in as-built drawings. LLNL drawings and sketches will be processed through and archived in the LLNL Engineering Records Center.

#### ***5.12.3 Inspection Reports***

Safety and mission-critical equipment shall have documented dimensional, material, performance, and calibration reports completed as appropriate.

#### ***5.12.4 Historical Files***

Historical files allow experiments and operations to be reevaluated or repeated at a later time. As technologies and understanding develop, thorough documentation allows new questions to be asked and answered.

### **5.13 Quality Assurance**

N Program embraces the DNT QA goal of providing a process for continuous improvement in all areas of performance with a continuing dedication to excellence. The DNT QA program is defined in its *Quality Assurance Plan* (DNT 1995), which implements requirements of the LLNL *Quality Assurance Program* (LLNL 1996). The DNT program meets the requirements of DOE Order 5700.6C (as well as DOE O 414.1A).

The following facility-specific QA plans apply to N Program work at NTS facilities:

- The DAF *Quality Management Plan* (DAF 1998) governs quality assurance of work performed at the DAF.
- When operational, the JASPER gas gun facility will have a dedicated quality assurance plan.
- The NTO QA Plan (NTO 2000) governs other LLNL facilities and general operations.

#### **5.14 Assessments**

DNT has established an ES&H Self-Assessment Plan (DNT 1996b) to ensure compliance with ES&H requirements and QA goals. This plan applies to the activities, facilities, and personnel that are associated with N Program work. It defines responsibilities, requirements, and processes associated with DNT assessments. It (the SA.6 revision) contains the schedule of assessments for NTO activities for the calendar years 2000 and 2001. The program uses three type of processes:

- Surveys are scheduled, topical or general system and/or activity reviews.
- Inspections are scheduled facility evaluations that provide formal comprehensive evaluations of compliance to codes, standards, and regulations.
- Audits are formal reviews of project or organization ES&H and/or QA activities.

Formal documentation of the process and results of each assessment action are required.

For work at the NTS, the following documents establish assessment requirements:

- The general work of the NTO is assessed in accordance with the NTO *Self-Assessment Program* (NTO 2000).
- For operations at the DAF, two procedures define assessment requirements: *Independent Assessments* and *Management Self-Assessments* (DAF 1996b, c).

#### **5.15 Performance Evaluations**

An important aspect of the continuous improvement process is the feedback on performance that is provided by the responsible agent (customer) to the source or performing agency. N Program accomplishes this through the following mechanisms:

- Contributes input to the annual performance appraisals of LLNL payroll employees who support the program.
- Contributes input to DOE/NV for the periodic evaluations of BN.

These submittals include feedback on how effectively ES&H considerations were incorporated into the performance of work.

### **5.16 Lessons Learned**

The lessons learned process for N Program activities at the NTS is established in the NTO Lessons Learned Procedure (NTO 2000). This procedure establishes a process for:

- Collecting lessons learned that evolve from N Program activities at the NTS.
- Distributing generated lessons learned to the N Program community, as well as to outside lessons learned collection sites that are maintained by DTED, LLNL, and DOE/NV.
- Distributing appropriate lessons learned that originate at outside sources to the N Program community.

NTO maintains records of lessons learned for a minimum of two years. N Program funds this process.

### **5.17 Configuration Management**

To perform work safely, the configuration of the components of an activity must be consistent with that which was represented in the planning and evaluation phase of the activity. The components of concern generally fall into the following categories:

- Work controls that are established in operations documents, such as OSPs, FSPs, and execution plans.
- Design or physical features of a facility or piece of equipment. Examples could include the design or condition of a load-bearing member in a critical load path, or the physical make-up or condition of a relevant engineered safety feature (such as an interlock) in a facility.

For N Program, configuration management is maintained at the project or facility level. Line managers are responsible for assuring that they maintain control of the configuration of those components that have a bearing on the safe and successful execution of the activity. The application of a graded approach to configuration management is encouraged.

Configuration management entails two elements. The first is to establish a configuration that is adequate for its intended purpose. This is accomplished through the engineering processes of design, development, and testing that are brought to bear on the activity. The configuration of a component is formally established by the review and approval processes that are imposed on N Program work by the Engineering Directorate. The second element is change control. The process for allowing a change to an approved component must be applied such that any impact of the change on the safe or successful performance of the component is evaluated and understood by the responsible individual(s). The change may only be adopted if it is reviewed and approved for implementation through a process that is comparable to the process that originally approved the component. Again, N Program depends on the line managers and subject matter experts of the Engineering Directorate for the successful implementation of this process. A formal configuration management process is in place at the DAF, defined in *Configuration Management Plan* (DAF 1996a).

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- “LLNL-NTO Lessons Learned,” NTO-ADM-105.
- “LLNL-NTO Quality Assurance Plan,” NTO-ADM-100.
- “LLNL-NTO Self-Assessment Program,” NTO-ADM-103.
- “LLNL-NTO Training and Qualifications,” NTO-ADM-109.



## **Attachment 1. N Program ISM Requirements Matrix**

N Program Integrated Safety Management Requirements Matrix 2/22/00

	A	B	C	D	E	F
1						
4		<b>N Program Integrated Safety Management Requirements Matrix</b>				
14		DNT Directorate Documents	Institutional Source Documents	Responsible Positions	** Italics indicate an observation or comment, not a task to be accomplished.	
15		FSP - Facility Safety Plans	ES&HM - ES&H Manual	PAY - Payroll management chain	<b>N Program Documents</b>	
16		DQAP - DNT Quality Assurance Plan	TPM - Training Program Manual	FMC - Facility management chain	ADM-100, Quality Assurance Program	
17		DTP - DNT Training Plan	QAP - Quality Assurance Plan	PMC - Program management chain	ADM-102, NTO Documents	
18		DSAP - DNT Self-Assessment Plan	ORIP - Occurrence Reporting	AD - Associate Director	ADM-103, Self-Assessment Program	
19		FISMSP - Facility ISMS Plans		PL - Program Leader	ADM-104, Deficiency Cause and Trend Analysis	
20		FSAR - Facility Safety Analysis Reports		RI - Responsible Individual	ADM-105, Lessons Learned	
21		FAA - Facility Authorization Agreements		AM - Assurance Manager	ADM-109, LLNL-NTO Training and Qualifications	
22		FTSR - Facility TSRS		FM - Facility Manager	NTS-101, Environment, Safety & Health Policy	
23		FOSR - Facility OSRs		IW - Individual Worker	NTS-102, Environment, Safety & Health at the NTS	
24		ORP - DNT Occurrence Reporting Protocol			NTS-104, Occurrence Reporting System	
25					NTS-107, Work Authorization and Risk Assessment	
26					NTS-109, Stop Work	
27					NTS-301, Medical Surveillance of Occupational Injuries and Illnesses	
28					NPMP - N Program Management Plan	
29	Ref.	Requirements from the LLNL ISMS Description	LLNL Implementing Procedures & Documents	Directorate Implementing Procedures & Documents	N Program Implementation Requirements	Responsible Positions
30	6.2	<b>Roles and Responsibilities</b>				
31	6.2.1	<b>LLNL Fundamental Guiding Principle</b>				
32		Each worker, supervisor, and manager is directly responsible for ensuring their own safety and promoting a safe, healthful, and environmentally sound workplace and community.				
33	6.2.1.1	<b>Accountability Policy</b>				
34	(1)	The Laboratory's goal, simply, is to practice safety by taking actions to avoid the potential for injury to people or damage to property. The principal means of establishing and enforcing accountability for ES&H are: a) communicating ES&H expectations to employees; b) reinforcing expectations through timely verbal feedback; c) formal appraisal and salary actions implemented annually for each employee (see 6.2.2.1); d) awards and recognition for notable contributions to ES&H; and e) corrective action in cases of employee misconduct. Corrective action policies and procedures are contained in the Laboratory's Personnel Policy and Procedures Manual, Section E, II Corrective Action.	<ul style="list-style-type: none"> <li>Chapter 1, Section 1.2.2</li> <li>Chapter 2, Appendix 2-H "Accountability Requirements".</li> <li>Chapter 2, Appendix 2-I "Impact of Safety Performance on Appraisals and Ranking"</li> <li>Personnel Policy and Procedures Manual, Section E, II, Corrective Action</li> </ul>	DNT implements these requirements directly from the ES&H Manual and Personnel Policy and Procedures Manual. Institutional appraisal and salary guidelines are implemented annually by memoranda.	N Program implements these requirements through referenced DNT processes*, and relevant N Program procedures and the NPMP. Relevant payroll actions are implemented through the Engineering ISMS IP.	PAY,FMC,PMC
35	(2)	Each employee is directly responsible for ensuring his or her own safety and the safety of others that could be impacted by their actions. All members of the workforce are held accountable for meeting the Laboratory's ES&H requirements as defined in this Description and the Work Smart Standards set in Contract 48, and as detailed in the LLNL ES&H Manual and other approved manuals, plans, and procedures.	<ul style="list-style-type: none"> <li>Chapter 2, Appendix 2-H "Accountability Requirements".</li> <li>Chapter 1, Section 1.2.3 and 1.3</li> </ul>	DNT implements these requirements through the DNT ISMS Implementation Plan, the DNT ES&H Policy and individual FSPs, OSPs and IWSs.	N Program implements these requirements through referenced DNT processes*, and relevant N Program procedures and the NPMP.	PAY,FMC,PMC,IW

\* "Referenced DNT processes" are identified in the companion DNT column entitled "Directorate Implementing Procedures and Documents"

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29	Ref.	Requirements from the LLNL ISMS Description	LLNL Implementing Procedures & Documents	Directorate Implementing Procedures & Documents	N Program Implementation Requirements	Responsible Positions
36	(3)	Accountability applies to all levels of employees including managers and supervisors and contains positive reinforcement for meeting Laboratory safety expectations and negative consequences for failing to do so. The management of each Directorate is responsible for having in place effective processes to implement, measure, and reinforce Laboratory safety expectations. Each Directorate is to use its Directorate awards and recognition program to promote exemplary safety behavior and performance.	<ul style="list-style-type: none"> <li>Chapter 2, Appendix 2-H "Accountability Requirements"</li> </ul>	DNT implements these requirements directly from the ES&H and HR Manuals, and is an element of the DSAP. DNT has implemented the Directorate Awards Program and specifically identified safety performance as an element in this process.	N Program implements these requirements through referenced DNT processes. Relevant Payroll actions are implemented through the Engineering ISMS IP.	PAY, FMC, PMC
37	(4)	Each Directorate will hold its employees accountable for compliance with Laboratory ES&H requirements through personnel processes such as performance appraisals, ranking, salary management actions, awards and recognition, and the application of corrective action. In addition:  a) Each worker, immediate supervisor, and manager is directly responsible for ensuring accidents and injuries are properly reported. Accurate and complete reporting is necessary.  b) All employees are responsible for bringing safety concerns promptly to the attention of the appropriate manager or supervisor for resolution. If a satisfactory response is not received then the senior manager for the organization should be contacted and then the Laboratory Site Manager.	<ul style="list-style-type: none"> <li>Chapter 2, Section 2.2.4 and</li> <li>Chapter 1, Sections 1.3 and 1.8.2</li> </ul>	DNT implements these requirements through the DNT ISMS Implementation Plan, individual FSPs, and the ORP.	N Program implements these requirements through referenced DNT processes*, and relevant N Program procedures and the NPMP. Relevant payroll actions are implemented through the Engineering ISMS IP.	PAY, FMC, PMC, IW
38	(5)	Feedback and corrective action will be taken consistent with Laboratory Personnel Policies and Procedures for violations of Laboratory ES&H requirements. Feedback may be verbal or written. Corrective actions may include the following depending on the nature and severity of the violation: written warning, suspension without pay, permanent or temporary salary reduction, demotion, and dismissal. Corrective actions must be coordinated through the Office of Staff Relations to assure uniform application within the Laboratory.	<ul style="list-style-type: none"> <li>Chapter 2, Appendix 2-H "Accountability Requirements"</li> <li>Personnel Policy and Procedures Manual, Section E, II, Corrective Action</li> </ul>	DNT implements these requirements through the DNT ISMS Implementation Plan and the Personnel Policy and Procedures Manual.	N Program implements these requirements through referenced DNT processes, and relevant N Program procedures. Relevant payroll actions are implemented through the Engineering ISMS IP.	PAY
39	(6)	Each payroll Directorate is to maintain records of all safety awards and corrective actions it administers. A summary of these records is to be reported to the DDO no later than one month after the end of each fiscal year, starting in the year 2000. The DDO is to compile these reports into a Laboratory summary for management information and use.	Institutional Gap-No specific implementation requirements have been developed.	DNT will implement this requirement once institutional requirements and procedures are approved.	Will be determined when DNT fills the Gap.	PAY
40	(7)	When an incident or a systemic failure occurs that affects worker safety, the environment, or public health, the organization authorizing the work is responsible for ensuring an investigation of the relevant circumstances or assisting DOE investigators in conducting a review that falls within their purview. Necessary changes are to be made to the relevant policies, procedures, and/or hardware based on the findings of the review by the responsible organization.	<ul style="list-style-type: none"> <li>Chapter 2, Section 2.2.4;</li> <li>Chapter 1, Sections 1.3.2;</li> <li>Chapter 4;</li> <li>Supplement 4.08; and the</li> <li>LLNL Implementing Procedure for DOE order 232.1A</li> </ul>	DNT implements these requirements through the DNT ISMS Implementation Plan and the ORP.	N Program implements these requirements through referenced DNT processes*, and relevant N Program Procedures.	PAY, FMC, PMC

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29	Ref.	Requirements from the LLNL ISMS Description	LLNL Implementing Procedures & Documents	Directorate Implementing Procedures & Documents	N Program Implementation Requirements	Responsible Positions
41	6.2.2	<b>Guiding Principle 1 - Line Management Responsibility for Safety</b>				
42		Line management is responsible for the safety system and is ultimately responsible for the safety at the Laboratory.				
43	6.2.2.1	<b>Safety Performance Directly Affects Appraisals and Salary Actions</b>				
44	(1)	Safety expectations are to be established for each employee, including supervisors and managers. Expectations are to be documented and communicated and the employee given the opportunity to provide feedback.	• Chapter 2, Appendix 2-I "Impact of Safety Performance on Appraisals and Ranking"	DNT implements these requirements through the DNT ISMS Implementation Plan and annual performance appraisal guidelines.	N Program implements these requirements through referenced DNT processes*, and relevant N Program Procedures. Relevant Payroll actions are implemented through the Engineering ISMS IP.	PAY, FMC, PMC
45	(2)	A substantive assessment of safety performance is to be included in each individual's performance appraisal, addressing expectations and accomplishments. For managers and supervisors, the appraisal is also to address performance in establishing and implementing safety processes.	• Chapter 2, Appendix 2-I "Impact of Safety Performance on Appraisals and Ranking"	DNT implements these requirements through the DNT ISMS Implementation Plan and annual performance appraisal guidelines.	N Program implements these requirements through referenced DNT processes*. Relevant payroll actions are implemented through the Engineering ISMS IP.	PAY
46	(3)	Safety responsibilities and safety performance are to be explicit considerations during the annual ranking process and important factors in determining salary actions and promotions.	• Chapter 2, Appendix 2-I "Impact of Safety Performance on Appraisals and Ranking"	DNT implements these requirements through the DNT ISMS Implementation Plan and annual performance appraisal guidelines.	N Program implements these requirements through referenced DNT processes*. Relevant Payroll actions are implemented through the Engineering ISMS IP.	PAY
47	6.2.3	<b>DOE Guiding Principle 2 - Clear Roles and Responsibilities</b>				
48		Clear roles and responsibilities are established and maintained.				
49	6.2.3.1	<b>Safety Roles, Responsibilities, and Authorities (RRAs) for Organizations and Individuals Are Clearly Defined</b>				
50	(1)	The program organization is responsible for authorizing work. Program organizations are distinguished by having control of the funding as well as the responsibility to the sponsor for accomplishing the programmatic mission or activity.	• Chapter 1, Sections 1.3.4 and 1.4	DNT implements these requirements through the DNT ISMS Implementation Plan and FSPs, OSPs and IWSs.	N Program implements these requirements through referenced DNT processes*, and relevant N Program procedures and the NPMP.	PMC
51	(2)	The responsibility for work authorization may be delegated to another organization along with the funds to accomplish a specific work element. All delegations of work authorization responsibility must be formally documented and approved by the management of each Directorate involved. Irrespective of the number or level of work authorization delegations, the program organization retains ultimate responsibility back to the sponsor for the conduct of the work.	• Chapter 1, Sections 1.4 and 1.4.2	DNT implements these requirements through the DNT ISMS Implementation Plan and by invoking institutionally developed MOUs with other organizations.	N Program implements these requirements through referenced DNT processes*, and relevant N Program procedures and the NPMP.	FMC, PMC
52	(3)	Work performed as services by one organization for another is an area of particular concern requiring special attention. The appropriate division of safety RRAs between the requesting and the services organizations, based on the type of services, is specifically addressed in the ES&H Manual.	• Chapter 1, Sections 1.4 and 1.4.3	DNT implements these requirements directly from the ES&H Manual and through the DNT ISMS Implementation Plan.	N Program implements these requirements through referenced DNT processes*, and the NPMP.	PAY, FMC, PMC
53	(4)	The organization authorizing work is responsible for the activity's conduct, including accomplishing the technical objectives and safety requirements within the defined budget. The individuals responsible for:	• Chapter 1, Sections 1.3.4 and 1.4	N/A	N/A	
54	(a)	authorizing the work activity;	• Chapter 1, Sections 1.3.4 and 1.4	DNT implements these requirements through the DNT ISMS Implementation Plan, FSPs, OSPs, and IWSs.	N Program implements these requirements through referenced DNT processes*, the NPMP, and the OSPs and FSPs.	FMC, PMC
55	(b)	validating that the proposed work falls within the established safety envelope(s) (i.e., facility and/or operational concurrence);	• Chapter 1, Sections 1.3.4, 1.3.8, and 1.4	DNT implements these requirements through the DNT ISMS Implementation Plan, FSPs, OSPs, and IWSs.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	FMC, PMC

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29	Ref.	Requirements from the LLNL ISMS Description	LLNL Implementing Procedures & Documents	Directorate Implementing Procedures & Documents	N Program Implementation Requirements	Responsible Positions
56	(c)	supervising the specific work (i.e., ensuring work requirements are met) must be clearly identified and their safety RRAs clearly defined.	• Chapter 1, Section 1.3.4	DNT implements these requirements through the DNT ISMS Implementation Plan, FSPs, OSPs, and IWSs.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	PAY, FMC, PMC
57	(5)	The individual supervising work is responsible for identifying the organizational positions associated with the work activity and the corresponding safety RRAs. The requirement for safety RRAs may be satisfied by one or more of the following: a) referencing a position-specific ES&H responsibility statement in the Directorate Implementation Plan and any succeeding documentation; b) listing the ES&H responsibilities assigned to the position as delineated in ES&H documents (e.g., ES&H Manual, FSPs, OSPs, etc.); or c) using an equivalent approach defined in the Directorate Implementation Plan and any succeeding documentation.	• Chapter 1, Section 1.3.5	DNT implements these requirements in Section 3 of the DNT ISMS Implementation Plan, individual FSPs, FISMSPs, OSPs and IWSs.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	RI
58	(6)	The position-specific safety RRA information is to be provided to the individual performing the work and be readily accessible to others as described in the Directorate Implementation Plan and any succeeding documentation.	• Chapter 1, Section 1.3.5	DNT implements these requirements through the DNT ISMS Implementation Plan, FSPs, FISMSPs, OSPs, and IWSs.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	RI, IW
59	(7)	To ensure that facilities are properly managed, coordinated, and conducted, each Facility AD is responsible for identifying a Facility Point Of Contact (FPOC) and an alternate for each facility to fulfill responsibilities identified in the ES&H Manual.	• Chapter 1, Section 1.3.8	DNT implements these requirements through the DNT ISMS Implementation Plan and individual FSPs.	N Program implements these requirements through referenced DNT processes*, and OSPs and FSPs.	FMC, PMC
60	(8)	Each Directorate is to have an Assurance Manager to provide independent oversight of the Directorate's organizations, facilities, and activities to assure the proper implementation of the safety program.	• Chapter 1, Section 1.3.6	DNT implements these requirements through the DNT ISMS Implementation Plan.	N Program implements these requirements through referenced DNT processes.*	AD
61	(9)	LLNL's ES&H organizations are responsible for supporting the management chain by participating in work activity planning, monitoring operations for compliance, and providing the information needed to the appropriate staff and management to help maintain a safe work environment.	• Chapter 1, Sections 1.3.9, 1.3.10 and 1.3.11	DNT implements these requirements through the DNT ISMS Implementation Plan, FSPs, OSPs, IWSs and ES&H Team Action Plans.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures and OSPs and FSPs.	PAY
62	6.2.3.2	<b>The Management Chain Is Defined for Each Work Activity</b>				
63	(1)	For each work activity, the individuals serving in the management chain (i.e., first-level supervisor up to the responsible Associate Director) are to be identified by the organization authorizing the work. The management chain has direct control over the funding for the work activity. Figure 6.2 of the LLNL ISMS Description shows a basic framework of the overall structure for the LLNL mixed matrix organization in an extension and clarification of the operational functions now comprised of Program, Payroll, Facility, and Services. In this basic framework, the management chain exists for all LLNL operations down a clear line of funding and ES&H responsibility both directly and through formal Delegation and Acceptance Agreements. Nominal and special case scenarios have been demonstrated and Section 8.4 presents additional information and four typical operational cases. Many Associate Directors have all operational functions in their organizations. The first line of responsibility exists in their people, the work, and the structure both up and down as well across the structure.	• Chapter 1, Section 1.4	DNT implements these requirements through the DNT ISMS Implementation Plan, FSPs, OSPs, IWSs, and FISMSPs.	N Program implements these requirements through referenced DNT processes*, the NPMP and the OSPs and FSPs.	PAY, FMC, PMC
64						

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29	Ref.	Requirements from the LLNL ISMS Description	LLNL Implementing Procedures & Documents	Directorate Implementing Procedures & Documents	N Program Implementation Requirements	Responsible Positions
65	(2)	The management chain is responsible for:	N/A	N/A	N/A	
66	(a)	defining the scope of work;	• Chapter 1, Section 1.3.4	DNT implements these requirements through the DNT ISMS Implementation Plan, FSPs, OSPs, IWSs, and FISMSPs.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	FMC, PMC
67	(b)	ensuring that the hazards control system is effectively implemented;	• Chapter 1, Sections 1.3.1, 1.3.4 and 1.3.5	DNT implements these requirements through the DNT ISMS Implementation Plan, FSPs, OSPs, IWSs, the DNT SA Plan and FISMSPs.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	FMC, PMC
68	(c)	ensuring that workers have the skills, knowledge, and abilities (SKAs) to initially evaluate the hazards associated with an activity;	• Chapter 1, Sections 1.3.1, 1.3.4 and 1.3.5	DNT implements these requirements through the DNT ISMS Implementation Plan, FSPs, OSPs, IWSs, FISMSPs and individual position descriptions.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	PAY, FMC, PMC
69	(d)	ensuring that workers have the SKAs, including physical capabilities, to perform the assigned work safely;	• Chapter 1, Sections 1.3.1, 1.3.4, and 1.3.5; • Chapter 2, Section 2.2.4 • Chapter 5, Sections 5.2.1 and 5.2.2	DNT implements these requirements through the DNT ISMS Implementation Plan, FSPs, OSPs, IWSs, FISMSPs and individual position descriptions.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	PAY, FMC, PMC
70	(e)	authorizing the defined work, subject to the appropriate controls;	• Chapter 1, Sections 1.3.4 and 1.3.5	DNT implements these requirements through the DNT ISMS Implementation Plan, FSPs, OSPs, IWSs, and FISMSPs.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	FMC, PMC
71	(f)	ensuring that the workers perform the work safely and in conformance with applicable institutional, facility, and activity controls;	• Chapter 1, Sections 1.3.1, 1.3.4 and 1.3.5	DNT implements these requirements through the DNT ISMS Implementation Plan, FSPs, OSPs, IWSs, the DNT SA Plan and FISMSPs.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	PAY, FMC, PMC
72	(g)	monitoring and, as appropriate, strengthening the work activity's safety performance;	• Chapter 1, Sections 1.3.1, 1.3.4 and 1.3.5	DNT implements these requirements through the DNT ISMS Implementation Plan, FSPs, OSPs, IWSs, and FISMSPs.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	PAY, FMC, PMC
73	(h)	soliciting worker input.	• Chapter 1, Sections 1.3.4	DNT implements these requirements through the DNT ISMS Implementation Plan, FSPs, OSPs, IWSs and FISMSPs.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	PAY, FMC, PMC
74	6.2.3.3	<b>Processes for Case Management of "Lost and Restricted Work Days" Are Defined</b>				
75	(1)	The objective of a case management program is to return injured personnel to work as soon as reasonably possible consistent with the individual's personal health and safety.	• Chapter 2, Appendix 2-F "Lost and Restricted Work Day Case Management"	To Be Determined (TBD) by the institution. The DNT Program will be consistent with the Institutional Program.	N Program implements these requirements through referenced DNT processes*. Relevant Payroll actions are implemented through the Engineering ISMS IP.	PAY
76	(2)	Each Associate Director is responsible for putting in place within their organization a "lost and restricted work days" case management program consistent with LLNL's institutional case management program guidelines in the ES&H Manual.	• Chapter 2, Appendix 2-F "Lost and Restricted Work Day Case Management" • Chapter 1, Section 1.3.3 • Chapter 5, Appendix D	To Be Determined (TBD) by the institution. The DNT Program will be consistent with the Institutional Program.	N Program implements these requirements through referenced DNT processes*. Relevant Payroll actions are implemented through the Engineering ISMS IP.	PAY
77	6.2.3.4	<b>LLNL's Commitment to Safety and ISM is Formally Extended to Subcontractors and Subcontract Employees</b>				
78	(1)	To ensure that the Laboratory's commitment to safety and ISM is formally extended to its subcontractors, lower-tier subcontractors, and their employees, safety requirements are to be incorporated into the subcontracts and flowed down to lower-tier subcontractor's as appropriate.	• Chapter 1, Section 1.5.2 and • Supplement 1.11	DNT follows LLNL's Procurement Procedures regarding subcontractors.	N Program implements these requirements through referenced DNT processes*.	PAY, FMC, PMC

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29	Ref.	Requirements from the LLNL ISMS Description	LLNL Implementing Procedures & Documents	Directorate Implementing Procedures & Documents	N Program Implementation Requirements	Responsible Positions
79	(2)	Selection of the appropriate safety requirements is to be done through use of the provisions of Section 7.3 of the LLNL ISMS Description with the Work Activity Authorization Structure in Table 7.2 and the ES&H Manual. These provide a graded approach to the hazards of a planned work activity. The Facility Authorization Level, as described in Section 7.2 of the LLNL ISMS Description, and related considerations of the facility in which the work activity is to be conducted are to be included in the selection process.	See Comment for (1)	DNT follows LLNL's Procurement Procedures regarding subcontractors.	N Program implements these requirements through referenced DNT processes*.	PAY, FMC, PMC
80	(3)	The subcontract safety requirements are to be prepared and maintained consistent with the flow down requirements of Contract 48, Clause 6.7. These safety requirements are to be applied to subcontracts for work categorized per Section 7.3 of the LLNL ISMS Description as Work Authorization Level 2 or greater.	See Comment for (1)	DNT follows LLNL's Procurement Procedures regarding subcontractors.	N Program implements these requirements through referenced DNT processes*.	PAY, FMC, PMC
81	(4)	The organization requesting a subcontract for work is to evaluate the planned subcontract work and assign an activity categorization consistent with the Work Activity Authorization Structure. The appropriate ES&H Team is to be used to assist the requesting organization in making the determination, as necessary. The appropriate ES&H Team is to be notified of all requests for a subcontract where the work is categorized as Work Authorization Level 2 or greater and to be used accordingly. The Procurement and Materiel Department (P&M) is to use the Contract 48 and Description requirements and the categorization determination to select the appropriate safety requirements according to P&M procedures.	See Comment for (1)	DNT follows LLNL's Procurement Procedures regarding subcontractors.	N Program implements these requirements through referenced DNT processes*.	PAY, FMC, PMC
82	(5)	The subcontractor is to be informed of the work activity hazards and obtain the appropriate training consistent with this Description and the ES&H Manual.	See Comment for (1)	DNT follows LLNL's Procurement Procedures regarding subcontractors.	N Program implements these requirements through referenced DNT processes*.	PAY, FMC, PMC
83	(6)	A subcontractor performing work categorized as Work Authorization Level 2 or greater is to be required to manage and perform the work in accordance with the subcontractor's safety management system, which as a minimum must fulfill the requirements of Contract 48, Clause 6.7. In addition, a subcontractor performing work categorized as Work Authorization Level 4 or greater is to be required to document its safety management system in a site- and/or job-specific safety plan. P&M is to obtain this plan. The requesting organization and the appropriate ES&H Team are to review it for operational and technical accuracy and completeness. Then, together with P&M, they provide approval through P&M.	See Comment for (1)	DNT follows LLNL's Procurement Procedures regarding subcontractors.	N Program implements these requirements through referenced DNT processes*.	PAY, FMC, PMC
84	<b>6.2.3.5 Safety Documents Are Written So That They Are Readily Understandable by the Individuals Performing and Managing the Work</b>					
85	(1)	The purpose of the Laboratory's safety documents (i.e., manuals, plans, and procedures) is to enable all employees, subcontractors, and visitors to work safely and in an environmentally sound manner.	<ul style="list-style-type: none"> <li>Chapter 1, Section 1.2.4;</li> <li>Chapter 2, Section 2.3</li> </ul>	FSARs, FTSRs, FOSRs, OSPs, DQAP, IWSs, FSPs and all DNT Directorate Plans.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	PAY, FMC, PMC

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29	Ref.	Requirements from the LLNL ISMS Description	LLNL Implementing Procedures & Documents	Directorate Implementing Procedures & Documents	N Program Implementation Requirements	Responsible Positions
86	(2)	The authors and approving organizations of safety documents are responsible for ensuring that instructions are workable and readily understandable to the individuals performing and managing the work. The authors and approving organizations are likewise responsible for ensuring that safety documents are consistent with applicable rules and requirements.	<ul style="list-style-type: none"> <li>Chapter 1, Section 1.2.4;</li> <li>Chapter 2, Section 2.3</li> </ul>	DNT implements these requirements through the DNT ISMS Implementation Plan.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	PAY, FMC, PMC
87	(3)	In situations where requirements are particularly complex or ambiguous, the organization authorizing the work is to use the appropriate ES&H professionals and other Subject Matter Experts to interpret and assist in developing ways to satisfy requirements.	<ul style="list-style-type: none"> <li>Chapter 2, Section 2.3</li> </ul>	DNT implements these requirements through the DNT ISMS Implementation Plan and through individual FSPs.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	PAY, FMC, PMC
88	(4)	Workers are to be provided an opportunity to participate in the development of operating procedures specific to their work activities.	<ul style="list-style-type: none"> <li>Chapter 2, Section 2.3.6;</li> <li>Chapter 1, Section 1.3.4</li> </ul>	DNT implements these requirements through the DNT ISMS Implementation Plan.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	RI, IW
89	(5)	The resulting safety documents are to be readily available to all individuals who need access to the information.	<ul style="list-style-type: none"> <li>Chapter 1, Section 1.2.4;</li> <li>Chapter 2, Section 2.3</li> </ul>	DNT implements these requirements through the DNT ISMS Implementation Plan.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	RI
90	6.2.4	<b>DOE Guiding Principle 3 - Competence Commensurate with Responsibilities</b>				
91		Personnel possess competence commensurate with responsibilities.				
92	6.2.4.1	<b>Individuals Are Qualified to Perform Assigned Work</b>				
93	(1)	Each individual must possess the necessary skills, knowledge, and abilities, including physical capabilities, to carry out their assigned tasks. The base skills are to be ensured by the payroll organization.	<ul style="list-style-type: none"> <li>TPM, page1- Policy, page 3.</li> <li>Chapter 1, Sections 1.3.1, 1.3.4 and 1.3.5</li> </ul>	DNT Training Plan and Position Descriptions and Facility Training Plans, FSPs, OSPs, and IWSs.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs. Payroll requirements are met through the Engineering Training Plan.	PAY, FMC, PMC
94	(2)	The individual supervising the work activity is responsible for identifying:	N/A	N/A	N/A	N/A
95	(a)	the qualifications, including appropriate medical certifications, and surveillance necessary to carry out the work;	<ul style="list-style-type: none"> <li>Chapter 1, Section 1.3.5</li> </ul>	DNT implements these requirements from the ES&H Manual, DNT Training Plan, Position Descriptions, Facility Training Plans, FSPs, OSPs, and IWSs.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs. Payroll requirements are met through the Engineering Training Plan.	PAY, RI
96	(b)	the individuals with the qualifications and training to perform the work.	<ul style="list-style-type: none"> <li>Chapter 1, Section 1.3.5</li> </ul>	DNT implements these requirements from the ES&H Manual, DNT Training Plan, Position Descriptions, Facility Training Plans, FSPs, OSPs, and IWSs.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	PAY, RI
97	6.2.4.2	<b>Individuals Receive Appropriate Job-Specific Safety Training</b>				
98	(1)	The individual supervising the work activity is responsible for ensuring that the training necessary to do the assigned work safely is identified and communicated to the Payroll organization.	<ul style="list-style-type: none"> <li>Chapter 1, Section 1.3.5</li> </ul>	DNT implements these requirements through the DNT ISMS Implementation Plan, FSPs, OSPs and IWSs.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs. Payroll requirements are met through the Engineering Training Plan.	RI
99	(2)	All personnel are to receive training to perform their work in a safe and environmentally sound manner. The Laboratory provides the training needed to enable its employees to meet safety standards and facility-and activity-specific requirements.	<ul style="list-style-type: none"> <li>Chapter 1, Section 1.3.3; and</li> <li>Chapter 2, Section 2.2.3</li> <li>Chapter 7, Section 7.2</li> </ul>	DNT implements these requirements directly from the ES&H Manual and Training Program Manual and directorate/facility Training Plans, FSPs, OSPs and IWSs.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs. Payroll requirements are met through the Engineering Training Plan.	PAY, RI

\* "Referenced DNT processes" are identified in the companion DNT column entitled "Directorate Implementing Procedures and Documents"

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29	Ref.	Requirements from the LLNL ISMS Description	LLNL Implementing Procedures & Documents	Directorate Implementing Procedures & Documents	N Program Implementation Requirements	Responsible Positions
100	(3)	Accomplishment of safety training is documented in the Livermore Training Records and Information Network (LTRAIN).	• Chapter 2, Section 2.2.3	DNT implements these requirements through the DNT ISMS Implementation Plan and the DNT Training Plan.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, and the OSPs and FSPs. Payroll requirements are met through the Engineering Training Plan.	PAY
101	(4)	The organization authorizing work is responsible for ensuring that the resources necessary for required safety training are provided by that organization or another appropriate organization.	• Chapter 1, Sections 1.3.3 and 1.3.4; • Chapter 2, Section 2.2.3; and	DNT implements these requirements through the DNT ISMS Implementation Plan, FSPs, OSPs and IWSSs.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	FMC, PMC
102	(5)	Payroll organizations are to assure that their personnel have the required training.	• Chapter 1, Section 1.3.3; • Chapter 2, Section 2.2.3	DNT implements these requirements through the DNT ISMS Implementation Plan and DNT Training Plan.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	PAY
103	(6)	The work activity supervisor is to ensure that the personnel supporting their activities have the required safety training, including facility specific training.	• Chapter 1, Section 1.3.5; • Chapter 2, Section 2.2.3	DNT implements these requirements through the DNT ISMS Implementation Plan FSPs, OSPs and IWSSs.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, and the OSPs and FSPs.	RI
104	<b>6.2.4.3 Individuals Receive Appropriate ISMS Training</b>					
105	(1)	All Laboratory employees are to be trained in the principles and functions of ISMS at a level appropriate for their specific job duties and responsibilities. The Laboratory is responsible for developing the institutional ISMS training courses.	• Chapter 2, Section 2.2 • Chapter 7, Section 7.2	The institutional ISMS training has been delivered to DNT employees as part of ISMS roll-out.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	PAY
106	(2)	Each Directorate is responsible for ensuring that their employees receive ISMS training, including facility-and activity-specific training as appropriate, in an effective and timely manner.	• Chapter 2, Section 2.2	Training for DNT specific ISM issues has been developed and partially delivered.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	PAY
107	(3)	Each Directorate is responsible for assuring that the required ISMS training is appropriately documented in the LTRAIN system.	• Chapter 2, Section 2.2	DNT implements these requirements through the DNT ISMS Implementation Plan and through the DNT Training Plan.	N Program implements these requirements through referenced DNT processes*, and relevant N Program Procedures.	PAY
108	<b>6.3 Work Planning and Prioritization</b>					
109	<b>6.3.1 DOE Core Function 1 - Define the Scope of Work</b>					
110	<b>6.3.1.1 The Work Activity Is Defined</b>					
111	(1)	The organization authorizing the work activity is responsible for:	N/A	N/A	N/A	N/A
112	(a)	stating the technical objectives;	• Chapter 1, Section 1.3.4; • Chapter 2 Section 2.2.1	DNT implements these requirements through the DNT ISMS Implementation Plan, FSARs, FSPs, OSPs, and IWSSs.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	PMC
113	(b)	defining the work elements to be performed;	• Chapter 1, Section 1.3.4; • Chapter 2 Section 2.2.1	DNT implements these requirements through the DNT ISMS Implementation Plan, FSARs, FSPs, OSPs, and IWSSs.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	FMC, PMC
114	(c)	identifying the facility in which the work will take place;	• Chapter 1, Section 1.3.4; • Chapter 2 Section 2.2.1	DNT implements these requirements through the DNT ISMS Implementation Plan, FSARs, FSPs, OSPs, and IWSSs.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	FMC, PMC
115	(d)	Identifying the individual who will be supervising the work activity.	• Chapter 1, Section 1.3.4; • Chapter 2 Section 2.2.1	DNT implements these requirements through the DNT ISMS Implementation Plan, FSARs, FSPs, OSPs, and IWSSs.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	FMC, PMC
116	(2)	The management chain that results from these determinations is responsible for ensuring the work activity is properly analyzed, controlled, performed, and monitored.	• Chapter 1, Section 1.3.4 and 1.4; and • Chapter 2, Section 2.2.1	DNT implements these requirements through the DNT ISMS Implementation Plan, FISMSPs, FSPs, OSPs, IWSSs.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	PAY, FMC, PMC
117	<b>6.3.1.2 The Graded Approach Process Is Consistently Applied</b>					
118	(1)	An individual may initiate and perform a work activity without the imposition of formal work controls if it involves only activities commonly performed by the public as defined in the ES&H Manual. In no instance shall an individual initiate or perform a work activity not commonly performed by the public without the approval of an appropriate person in their management chain.	• Chapter 2, Section 2.1.2	DNT implements these requirements through the DNT ISMS Implementation Plan, FSPs and OSPs.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, and the OSPs and FSPs.	IW

\* "Referenced DNT processes" are identified in the companion DNT column entitled "Directorate Implementing Procedures and Documents"

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29	Ref.	Requirements from the LLNL ISMS Description	LLNL Implementing Procedures & Documents	Directorate Implementing Procedures & Documents	N Program Implementation Requirements	Responsible Positions
119	(2)	It is the responsibility of the organization authorizing work to ensure that the greater the hazards associated with an activity the more rigorous the work planning process that will be required. The objective of the work planning process is to ensure the hazards associated with the work activity are clearly understood and appropriately addressed. To ensure this objective is met, relevant ES&H professionals and Subject Matter Experts are to be used during the work planning process, as appropriate.	<ul style="list-style-type: none"> <li>Chapter 1, Sections 1.3.4;</li> <li>Chapter 2, Section 2.1.2, and Appendix 2-A</li> </ul>	DNT implements these requirements through the DNT ISMS Implementation Plan, FSPs, OSPs, and IWSs.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, and the OSPs and FSPs.	FMC, PMC
120	(3)	Consistent with the provisions and levels described in Section 7 of the LLNL ISMS Description and the ES&H Manual, the individuals responsible for:	N/A	N/A	N/A	N/A
121	(a)	authorizing the work activity;	<ul style="list-style-type: none"> <li>Chapter 1, Section 1.3.4;</li> <li>Chapter 2, Section 2.2.2 and Appendix 2-A</li> </ul>	DNT implements these requirements through the DNT ISMS Implementation Plan, FSPs, OSPs, and IWSs.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	FMC, PMC
122	(b)	ensuring the facility and/or operational safety envelope;	<ul style="list-style-type: none"> <li>Chapter 1, Section 1.3.7;</li> <li>Chapter 2, Section 2.2.2 and Appendix 2-A</li> </ul>	DNT implements these requirements through the DNT ISMS Implementation Plan, FSARs, FTSRs, FOSRs, FSPs, OSPs, and IWSs.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	FMC, PMC
123	(c)	supervising the work;	<ul style="list-style-type: none"> <li>Chapter 1, Section 1.3.5;</li> <li>Chapter 2, Section 2.2.2 and Appendix 2-A</li> </ul>	DNT implements these requirements through the DNT ISMS Implementation Plan, FSPs, OSPs, and IWSs.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	RI
124	(d)	providing the safety support are to be involved in the analysis of the hazards and a determination of the appropriate work controls to be applied to the work activity.	<ul style="list-style-type: none"> <li>Chapter 1, Section 1.3.10;</li> <li>Chapter 2, Section 2.2.2 and Appendix 2-A</li> </ul>	DNT implements these requirements through the DNT ISMS Implementation Plan, FSPs, OSPs, and IWSs.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	PAY, FMC, PMC
125	(4)	Work is to be authorized by the appropriate level of management as described in Section 7 of the LLNL ISMS Description and expanded upon in the ES&H Manual.	<ul style="list-style-type: none"> <li>Chapter 1, Sections 1.3.4 &amp; 1.4;</li> <li>Chapter 2, Section 2.2.4, and Appendix 2-A</li> </ul>	DNT implements these requirements through the DNT ISMS Implementation Plan, FSPs, OSPs, and IWSs.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	FMC, PMC
126	<b>6.3.2 DOE Guiding Principle 4 - Balanced Priorities</b>					
127	Resource allocations are balanced, making ES&H a priority in project planning and execution.					
128	<b>6.3.2.1 Resource Planning Processes Ensure Balanced Priorities</b>					
129	(1)	The organization authorizing work is responsible for allocating sufficient resources to ensure safe and compliant operations.	<ul style="list-style-type: none"> <li>Chapter 1, Sections 1.3.3 and 1.3.4</li> </ul>	DNT implements these requirements through the DNT ISMS Implementation Plan, FSPs, OSPs, and IWSs.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	FMC, PMC
130	(2)	A work activity proceeds only with a reasonable expectation by the management chain that there will be sufficient resources to ensure safety requirements are satisfied over the length of the project, including closeout activities.	<ul style="list-style-type: none"> <li>Chapter 1, Section 1.3.3;</li> <li>Chapter 2, Section 2.2.4</li> </ul>	DNT implements these requirements through the DNT ISMS Implementation Plan, FSPs, OSPs, and IWSs.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	FMC, PMC
131	<b>6.4 Hazards Analysis</b>					
132	<b>6.4.1 DOE Core Function 2 - Analyze the Hazards</b>					
133	<b>6.4.1.1 Hazards Are Identified and Analyzed for All Work Activities</b>					
134	(1)	The organization authorizing a work activity is responsible for ensuring that the associated hazards are identified. ES&H professionals are to be used in the hazard identification process, as appropriate. Workers are to be provided an opportunity to participate in the process of identifying hazards.	<ul style="list-style-type: none"> <li>Chapter 1, Section 1.3.4 and 1.3.10;</li> <li>Chapter 2, Section 2.2.1, 2.2.2</li> </ul>	DNT implements these requirements through the DNT ISMS Implementation Plan, FSPs, OSPs, and IWSs.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	FMC, PMC
135	(2)	Hazards are to be identified and analyzed consistent with the provisions of the ES&H Manual.	<ul style="list-style-type: none"> <li>Chapter 1, Section 1.3.4 and 1.3.10;</li> <li>Chapter 2, 2.2.2</li> </ul>	DNT implements these requirements through the DNT ISMS Implementation Plan, FSPs, OSPs, and IWSs.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	FMC, PMC

\* "Referenced DNT processes" are identified in the companion DNT column entitled "Directorate Implementing Procedures and Documents"

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29	Ref.	Requirements from the LLNL ISMS Description	LLNL Implementing Procedures & Documents	Directorate Implementing Procedures & Documents	N Program Implementation Requirements	Responsible Positions
136	(3)	Each individual is responsible for making conscious considerations of the safety implications of their actions whether or not formal hazards analysis and documentation are required.	<ul style="list-style-type: none"> <li>Chapter 1, Section 1.3.4;</li> <li>Chapter 2 Section 2.2.2 and, Appendix 2-A</li> </ul>	DNT implements these requirements through the DNT ISMS Implementation Plan, FSPs, OSPs, and IWSs.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	IW
137	6.4.1.2	<b>Integration Work Sheets Are Developed for Appropriate Work Activities</b>				
138	(1)	The intent of the Integration Work Sheet (IWS) is to ensure front-end identification of all hazards associated with a work activity. An IWS is required when a work activity is beyond that commonly performed by the public. The organization authorizing a work activity is responsible for ensuring that an IWS is prepared, reviewed, and approved consistent with the provisions of Section 7 of the LLNL ISMS Description and the ES&H Manual. The format and instructions for the IWS are contained in the ES&H Manual. The completed IWS provides the authorization for the work activity once a prestart review confirms readiness.	<ul style="list-style-type: none"> <li>Chapter 2, Section 2.3.4; Appendix 2-A, Appendix 2-B</li> </ul>	DNT implements these requirements through the DNT ISMS Implementation Plan.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	FMC, PMC
139	(2)	At the discretion of the organization authorizing the work, preparation of the IWS may be delegated to either the organization responsible for a) supervising the work activity or b) the facility safety envelope. Any delegation of the responsibility for preparing the IWS is to be documented as described in the ES&H Manual.	<ul style="list-style-type: none"> <li>Chapter 2, Section 2.3.4</li> </ul>	DNT implements these requirements through the DNT ISMS Implementation Plan.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	FMC, PMC
140	(3)	The organization responsible for ensuring the facility and/or operational safety envelope(s) is to review and concur with the IWS.	<ul style="list-style-type: none"> <li>Chapter 2, Section 2.1.2</li> </ul>	DNT implements these requirements through the DNT ISMS Implementation Plan.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	FMC, PMC
141	6.4.1.3	<b>Appropriate Sections of the ES&amp;H Manual Are Applied in the Process of Analyzing Hazards</b>				
142	(1)	The specific hazards identified with the work activity are to be analyzed according to the requirements of the applicable sections of the ES&H Manual and by the use, as necessary, of the appropriate ES&H professionals.	<ul style="list-style-type: none"> <li>Chapter 1, Section 1.3.4;</li> <li>Chapter 2, Section 2.2.2</li> </ul>	DNT implements these requirements through the DNT ISMS Implementation Plan, FSPs, OSPs, and IWSs.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	FMC, PMC
143	(2)	The identified hazards are to be clearly communicated to all involved in the activity.	<ul style="list-style-type: none"> <li>Chapter 1, Section 1.3.5;</li> <li>Chapter 2, Sections 2.2.2 and 2.2.4</li> </ul>	DNT implements these requirements through the DNT ISMS Implementation Plan, FSPs, OSPs, and IWSs.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	RI
144	(3)	The organization authorizing the work activity and the individual supervising the work are responsible for periodically reviewing the hazards associated with the work activity as described in the ES&H Manual.	<ul style="list-style-type: none"> <li>Chapter 1, Sections 1.3.4 and 1.3.5;</li> <li>Chapter 2, Section 2.2.5</li> </ul>	DNT implements these requirements through the DNT ISMS Implementation Plan, FSPs, OSPs and IWSs.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, and the OSPs and FSPs.	FMC, PMC, RI
145	6.5	<b>Hazard Mitigation and Control</b>				
146	6.5.1	<b>DOE Core Function 3 - Develop and Implement Hazard Controls</b>				
147	6.5.1.1	<b>A Uniform Process Governs Safety Procedure Development</b>				
148	(1)	A uniform process is to be applied across the Laboratory for the development of safety-related procedures consistent with the provisions established in the ES&H Manual. This process identifies when procedures are to be developed, specifies content based upon the hazards being managed, and provides a recommended format for structuring the procedure.	<ul style="list-style-type: none"> <li>Supplement 2.01</li> </ul>	DNT implements these requirements through the DNT ISMS Implementation Plan. Building 332 has a specific Policy on Procedures.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	FMC, PMC

\* "Referenced DNT processes" are identified in the companion DNT column entitled "Directorate Implementing Procedures and Documents"

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29	Ref.	Requirements from the LLNL ISMS Description	LLNL Implementing Procedures & Documents	Directorate Implementing Procedures & Documents	N Program Implementation Requirements	Responsible Positions
149	6.5.1.2	<b>Requirements in the ES&amp;H Manual Are Applied in the Process of Developing and Implementing Controls</b>				
150	(1)	The individual supervising the work activity is responsible for ensuring that tailored controls are developed for each hazard associated with the work activity. The tailored controls are to be developed and implemented consistent with Section 7 of the LLNL ISMS Description and the ES&H Manual.	<ul style="list-style-type: none"> <li>Chapter 1, Section 1.3.5;</li> <li>Chapter 2, Section 2.2.3</li> </ul>	DNT implements these requirements through the DNT ISMS Implementation Plan, FSPs, OSPs, and IWSs.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	RI
151	(2)	As appropriate, Subject Matter Experts are to be used in the development of work controls.	<ul style="list-style-type: none"> <li>Chapter 1, Section 1.3.10; and</li> <li>Chapter 2, Section 2.2.3</li> </ul>	DNT implements these requirements through the DNT ISMS Implementation Plan, FSPs, OSPs, and IWSs.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, and the NPMP.	RI
152	(3)	Workers are to be provided an opportunity to participate in the development of the operating procedures.	<ul style="list-style-type: none"> <li>Chapter 1, Section 1.3.4; and</li> <li>Chapter 2, Sections 2.2.4 and 2.3.6</li> </ul>	DNT implements these requirements through the DNT ISMS Implementation Plan, FSPs, OSPs, IWSs and OPs.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	RI
153	(4)	The organization authorizing work is responsible for approving the work controls.	<ul style="list-style-type: none"> <li>Chapter 1, Section 1.3.4;</li> <li>Chapter 2, Section 2.2.4</li> </ul>	DNT implements these requirements through the DNT ISMS Implementation Plan, FSPs, OSPs, and IWSs.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	FMC, PMC
154	(5)	The designated controls are to be clearly communicated to all involved in the activity.	<ul style="list-style-type: none"> <li>Chapter 1, Section 1.3.5; and</li> <li>Chapter 2, Section 2.2.4</li> </ul>	DNT implements these requirements through the DNT ISMS Implementation Plan, FSPs, OSPs, and IWSs.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	RI
155	(6)	The organization authorizing the work activity and the individual supervising the work are responsible for periodically reviewing and ensuring the adequacy of the controls associated with the work activity.	<ul style="list-style-type: none"> <li>Chapter 1, Sections 1.3.4 and 1.3.5;</li> <li>Chapter 2, Section 2.2.5</li> </ul>	DNT implements these requirements through the DNT ISMS Implementation Plan, FSPs, OSPs, and IWSs.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	FMC, PMC, RI
156	6.5.2	<b>DOE Guiding Principle 5 - Identification of Safety Standards and Requirements</b>				
157		Safety standards and requirements are identified and implemented. The basis and particulars are presented in Sections 10 and 12.				
158	6.5.2.1	<b>Programs for Preventing Injuries Are Defined</b>				
159	(1)	Each Directorate is responsible for having in place defined programs to prevent injuries. An ergonomics program developed consistent with the ES&H Manual is an example of a defined program to prevent injuries.	<ul style="list-style-type: none"> <li>Chapter 2, Appendix 2-G "Injury Prevention Program"</li> </ul>	DNT implements this requirement through the DNT ISMS Implementation Plan.	N Program implements these requirements through referenced DNT processes*.	PAY
160	(2)	Each Directorate is responsible for analyzing all the injuries associated with their organization's operations and facilities.	<ul style="list-style-type: none"> <li>Chapter 2, Appendix 2-G "Injury Prevention Program"</li> </ul>	DNT implements this requirement through the DNT ISMS Implementation Plan.	N Program implements these requirements through referenced DNT processes*.	PAY
161	(3)	The HCD will provide each Directorate with injury statistics and related information.	<ul style="list-style-type: none"> <li>Chapter 2, Appendix 2-G "Injury Prevention Program"</li> </ul>	DNT implements this requirement through the DNT ISMS Implementation Plan.	N Program implements these requirements through referenced DNT processes*.	N/A
162	(4)	Using resources such as the Lessons Learned program, each Directorate is responsible for assessing whether existing practices or conditions could materially contribute to the organization's accident and injury rates.	<ul style="list-style-type: none"> <li>Chapter 2, Appendix 2-G "Injury Prevention Program"</li> </ul>	DNT implements this requirement through the DNT ISMS Implementation Plan.	N Program implements these requirements through referenced DNT processes*.	PAY
163	(5)	Each Directorate is responsible for developing programs to address:	N/A	N/A	N/A	N/A
164	(a)	the specific injury/illness categories driving the organization's lost and restricted work day numbers;	<ul style="list-style-type: none"> <li>Chapter 2, Appendix 2-G "Injury Prevention Program"</li> </ul>	DNT implements this requirement through the DNT ISMS Implementation Plan.	N Program implements these requirements through referenced DNT processes*.	PAY
165	(b)	other practices or conditions that could materially affect the organization's accident and injury rates.	<ul style="list-style-type: none"> <li>Chapter 2, Appendix 2-G "Injury Prevention Program"</li> </ul>	DNT implements this requirement through the DNT ISMS Implementation Plan.	N Program implements these requirements through referenced DNT processes*.	PAY

\* "Referenced DNT processes" are identified in the companion DNT column entitled "Directorate Implementing Procedures and Documents"

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166	6.5.2.2	<b>ISMS Principles and Commitments Are Addressed in Safety Documents</b>				
	(1)	The ES&H Manual and other Laboratory safety documents are to address ISMS principles and commitments.	• Chapter 2, Section 2.1	N/A	N/A	N/A
167	(2)	The ES&H Manual describes the approaches the Laboratory uses to implement the ISMS. The ES&H Manual references and implements the WSS set as they relate to specific work and hazards.	• Chapter 2, Sections 2.1 and 2.2.3	N/A	N/A	N/A
168	(3)	The Directorate safety and safety-related documents (e.g., IWSs, FSPs, OSPs, Self-assessment Plans, training plans, etc.) are to be based on the ISMS principles and incorporate the applicable requirements of the WSS set, all per the provisions of the LLNL ISMS Description and the ES&H Manual. The IWS is a new and important addition to the safety documents and needs to be included with an orderly implementation of the ISM and WSS considerations in all of the documents. The IWS is not required for the Superblock activities as described in Section 7.3. of the LLNL ISMS Description.	• Chapter 2, Section 2.3	DNT implements this requirement through the DNT ISMS Implementation Plan.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, and the NPMP.	FMC, PMC
169	(4)	For new work activities, the IWS is to be used starting October 1, 1999. New FSPs, OSPs, and other safety-related documents are to include the ISM and WSS considerations also starting October 1, 1999.	• Chapter 2, Sections 2.3 and 2.1.2	DNT implements this requirement through the DNT ISMS Implementation Plan. DNT implemented the IWS for new work activities starting October 1, 1999.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, and the NPMP.	FMC, PMC
170	(5)	For existing work activities with approved safety documents (e.g. FSPs and OSPs), IWSs are to be prepared to ensure incorporation of the ISMS requirements by the time of the final verification. In the transition, these can use existing approved safety documents in completing the IWS format and obtaining the approval. Existing FSPs, OSPs, and other safety-related documents are to be updated with the ISM and WSS considerations by the next scheduled review or the September 2000 milestone, whichever is earlier.	• Chapter 2, Section 2.3	DNT implements this requirement through the DNT ISMS Implementation Plan.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, and the NPMP.	FMC, PMC
171						
172	6.5.3	<b>DOE Guiding Principle 6 - Hazard Controls Tailored to Work Being Performed</b>				
173		Hazard controls are tailored to the project work.				
174	6.5.3.1	<b>Appropriate Sections of the ES&amp;H Manual Are Applied in Tailoring Controls to Specific Work Activities</b>				
	(1)	The individual supervising the work activity is responsible for ensuring tailored controls are developed and implemented for each hazard associated with the facility and work activity consistent with the provisions of Section 7 of the LLNL ISMS Description and the ES&H Manual.	• Chapter 1, Section 1.3.5; • Chapter 2, Section 2.2.3	DNT implements these requirements through the DNT ISMS Implementation Plan, FSPs, OSPs, and IWSs.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	RI
175						
176	6.6	<b>Work Authorization and Execution</b>				
177	6.6.1	<b>DOE Guiding Principle 7 - Operations Authorization</b>				
178		Operations are authorized before work begins.				
179	6.6.1.1	<b>Work Activities Are Appropriately Reviewed and Authorized Before Starting</b>				
	(1)	Work activities are to be reviewed and authorized before the work begins consistent with the provisions of Section 7 of the LLNL ISMS Description and the ES&H Manual.	• Chapter 1, Section 1.3.4; • Chapter 2, Section 2.2.4	DNT implements these requirements through the DNT ISMS Implementation Plan, FSPs, OSPs, and IWSs.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	FMC, PMC
180						

\* "Referenced DNT processes" are identified in the companion DNT column entitled "Directorate Implementing Procedures and Documents"



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29	Ref.	Requirements from the LLNL ISMS Description	LLNL Implementing Procedures & Documents	Directorate Implementing Procedures & Documents	N Program Implementation Requirements	Responsible Positions
181	(2)	As part of this process, workers are to be provided an opportunity to review and comment on the proposed operating plans and/or procedures.	<ul style="list-style-type: none"> <li>Chapter 1, Section 1.3.4; and</li> <li>Chapter 2, Section 2.2.4</li> </ul>	DNT implements these requirements through the DNT ISMS Implementation Plan, FSPs, OSPs, and IWSs.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	RI
182	(3)	The organization authorizing the work activity is responsible for ensuring an appropriate prestart review is conducted to validate satisfaction of the safety requirements.	<ul style="list-style-type: none"> <li>Chapter 1, Section 1.3.4;</li> <li>Chapter 2, Section 2.2.4</li> </ul>	DNT implements these requirements through the DNT ISMS Implementation Plan, FSPs, OSPs, and IWSs.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	FMC, PMC
183	(4)	The scope and rigor of the prestart review will vary based upon the characteristics of the work activity. The requirements of the prestart review process are defined in the ES&H Manual.	<ul style="list-style-type: none"> <li>Chapter 1, Section 1.3.4; and</li> <li>Chapter 2, Section 2.2.4 and Appendix 2-A</li> </ul>	DNT implements these requirements through the DNT ISMS Implementation Plan, FSPs, OSPs, and IWSs.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	FMC, PMC
184	<b>6.6.1.2</b>	<b>Authorization Agreements</b>				
185	(1)	For category 2 and 3 nuclear facilities or activities involving unusual nuclear hazards, LLNL and DOE mutually may agree to establish special authorization agreements for specific facilities and/or activities. The purpose of the authorization agreements is to provide a definitive understanding and documentation structure for the facilities and/or activities covered, consistent with Contract 48. An important feature provided is that they contain the necessary specific considerations and determinations required for the particular facilities and/or activities and enable this Description to address the institutional aspects. The agreements specifically authorize work associated with these facilities and/or activities. The agreements between DOE and the Laboratory identify, as appropriate, the hazards and associated mitigation measures required for authorization of the facilities and/or activities, when following the processes described in the applicable ISMS.	*Chapter 2, Appendix 2-C	DNT has FAAs for the three Superblock facilities (B331, B332, and B334). Superblock has successfully completed their ISMS Phase 1 and Phase 2 Verification.	LLNL, through N Program, implements this requirement through the Activity Agreement process that has been established by DOE/NV for NTS facilities, which would include Category 2 and 3 nuclear facilities.	FMC
186		After a potential need for an authorization agreement has been brought to the Laboratory leadership and addressed, the cognizant Associate Director will determine the conferring parties, the terms and conditions of the authorization agreement, and the duration. The specific application of authorization agreements are defined in Section 7.				
187	<b>6.6.2</b>	<b>DOE Core Function 4 - Perform Work Within Controls</b>				
188	<b>6.6.2.1</b>	<b>Work Is Appropriately Controlled</b>				
189	(1)	Each individual is responsible for adhering to the safety controls established for the work activity and informing their supervisors when controls are believed to be inadequate.	<ul style="list-style-type: none"> <li>Chapter 1, 1.3;</li> </ul>	DNT implements these requirements through the DNT ISMS Implementation Plan, FSPs, OSPs, and IWSs.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	IW
190	(2)	The supervisor of the work is responsible for ensuring that the work is performed in accordance with the defined work controls.	<ul style="list-style-type: none"> <li>Chapter 1, 1.3.5;</li> </ul>	DNT implements these requirements through the DNT ISMS Implementation Plan, FSPs, OSPs, and IWSs.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	RI
191	<b>6.6.2.2</b>	<b>Applicable Procedures Governing Documents Are Followed</b>				
192	(1)	The individual supervising the work is responsible for ensuring that each worker has immediate access to the work activity's governing procedures and safety documents.	<ul style="list-style-type: none"> <li>Chapter 1, Section 1.3.5;</li> </ul>	DNT implements these requirements through the DNT ISMS Implementation Plan, FSPs, OSPs, and IWSs.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	RI
193	(2)	Steps are taken by the individual supervising the work to ensure that each worker on the activity is knowledgeable concerning the governing procedures and work controls.	<ul style="list-style-type: none"> <li>Chapter 1, Section 1.3.5;</li> <li>Chapter 2, Section 2.2.4</li> </ul>	DNT implements these requirements through the DNT ISMS Implementation Plan, FSPs, OSPs, and IWSs.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	RI
194	(3)	All work is to be performed in conformance with applicable procedures and governing documents.	<ul style="list-style-type: none"> <li>Chapter 1, Section 1.3.5;</li> <li>Chapter 2, Section 2.2.4</li> </ul>	DNT implements these requirements through the DNT ISMS Implementation Plan, FSPs, OSPs, and IWSs.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	RI, IW

\* "Referenced DNT processes" are identified in the companion DNT column entitled "Directorate Implementing Procedures and Documents"



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29	Ref.	Requirements from the LLNL ISMS Description	LLNL Implementing Procedures & Documents	Directorate Implementing Procedures & Documents	N Program Implementation Requirements	Responsible Positions
195	6.7	<b>Performance Monitoring and Feedback</b>				
196	6.7.1	<b>DOE Core Function 5 - Provide Feedback and Continuous Improvement</b>				
197	6.7.1.1	<b>Work Activities Are Monitored</b>				
198	(1)	The individual supervising the work is responsible for monitoring the work activity to ensure that the governing procedures and safety documents are being followed.	<ul style="list-style-type: none"> <li>Chapter 1, Sections 1.3.5;</li> <li>Chapter 2, Section 2.2.5</li> </ul>	DNT implements these requirements through the DNT ISMS Implementation Plan, FSPs, OSPs, and IWSs.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	RI
199	(2)	In the event it is determined that the Work Activity's limits and/or controls are not being followed, the affected work is to be reevaluated by the organization authorizing the work activity and suspended, if appropriate, until remedial actions are taken.	<ul style="list-style-type: none"> <li>Chapter 1, Sections 1.3, and 1.3.5;</li> <li>Chapter 2, Section 2.2.5</li> </ul>	DNT implements these requirements through the DNT ISMS Implementation Plan, FSPs, OSPs and IWSs.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	PAY, FMC, PMC
200	(3)	In the event it is determined that the approved Work Activity Authorization or the Facility Operation Authorization per the provisions of Section 7 of the LLNL ISMS Description and the ES&H Manual is exceeded, the affected work and/or facility is to be placed in a safe condition and further work suspended until appropriate remedial actions are taken.	<ul style="list-style-type: none"> <li>Chapter 1, Section 1.3.5;</li> <li>Chapter 2, Section 2.2.5</li> </ul>	DNT implements these requirements through the DNT ISMS Implementation Plan, FSPs, OSPs and IWSs.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	FMC, PMC, RI, IW
201	(4)	Each worker is responsible for bringing to the attention of their immediate supervisor problems with the applicable operating limits and/or controls and opportunities for improvement associated with the work or governing procedure(s). The supervisor is responsible for the evaluation and appropriate action.	<ul style="list-style-type: none"> <li>Chapter 1, Sections 1.3 and 1.3.1;</li> <li>Chapter 2, Section 2.2.5</li> </ul>	DNT implements these requirements through the DNT ISMS Implementation Plan, FSPs, OSPs and IWSs. This requirement is also incorporated into DNT Directorate ES&H Policy and DNT ISMS Training.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	RI, IW
202	(5)	Each worker is empowered to stop work if there is an unsafe or unapproved condition. Prompt notification of the immediate supervisor is required. Resumption of work will not proceed until after the condition has been evaluated and the appropriate remedial actions have been taken.	<ul style="list-style-type: none"> <li>Chapter 1, Sections 1.3 and 1.7;</li> <li>Chapter 2, Section 2.2.5</li> </ul>	DNT implements these requirements through the DNT ISMS Implementation Plan, FSPs, OSPs and IWSs. This requirement is also incorporated into DNT Directorate ES&H Policy and DNT ISMS Training.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	FMC, PMC, RI, IW
203	6.7.1.2	<b>Safety Self-Assessment Programs Are Defined</b>				
204	(1)	The purpose of the Laboratory's safety self-assessment program is to ensure a proactive approach to safety and to improve safety performance. The specific objectives of LLNL's safety self-assessment program are to ensure:	N/A	N/A	N/A	N/A
205	(a)	Laboratory operations comply with applicable safety policies and procedures;	• Supplement 2.04	DNT implements these requirements through the DNT ISMS Implementation Plan and the DNT Self-Assessment Plan.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	PAY, FMC, PMC
206	(b)	safety-related requirements are integrated into all levels of facility, management, and operational activities;	• Supplement 2.04	DNT implements these requirements through the DNT ISMS Implementation Plan and the DNT Self-Assessment Plan.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	PAY, FMC, PMC
207	(c)	safety-related deficiencies are identified, analyzed, and managed in order to minimize their occurrence or recurrence.	• Supplement 2.04	DNT implements these requirements through the DNT ISMS Implementation Plan and the DNT Self-Assessment Plan.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	FMC, PMC
208	(2)	Each directorate is to develop and operate a safety self-assessment program consistent with the requirements specified in the ES&H Manual.	• Supplement 2.04	DNT implements these requirements through the DNT ISMS Implementation Plan and the DNT Self-Assessment Plan.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	PAY, FMC, PMC
209	(3)	As an integral part of the safety self-assessment process, each Directorate is to perform an annual evaluation of its implementation of the LLNL ISMS. The evaluation is to include a review of the Directorate Implementation Plan and any succeeding documentation to ensure it remains workable, current, and in conformance with the LLNL ISMS Description.	<ul style="list-style-type: none"> <li>Supplement 2.04</li> <li>Chapter 1, Section 1.3.3</li> </ul>	DNT implements these requirements through the DNT ISMS Implementation Plan and the DNT Self-Assessment Plan.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	PAY, FMC, PMC

\* "Referenced DNT processes" are identified in the companion DNT column entitled "Directorate Implementing Procedures and Documents"

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29	Ref.	Requirements from the LLNL ISMS Description	LLNL Implementing Procedures & Documents	Directorate Implementing Procedures & Documents	N Program Implementation Requirements	Responsible Positions
210	6.7.1.3	<b>Processes Are in Place to Measure and Reinforce Safety Requirements and Expectations</b>				
211	(1)	Establishing safety performance measures is a collective effort by the Laboratory, University of California, and DOE/OAK. The measures to gauge safety system effectiveness are determined through negotiations by multiple teams and managed through the Appendix F processes.	• Chapter 1, Section 1.3.6	Institutional Process	N Program implements these requirements through referenced DNT processes*.	N/A
212	(2)	The ES&H performance measures process is managed at an institutional level by the ES&H Functional Manager. The ES&H Working Group plays a key role in facilitating the ES&H performance measures process.	• Chapter 1, Section 1.3.6	Institutional Process	N Program implements these requirements through referenced DNT processes*.	N/A
213	(3)	Each Directorate is responsible for providing required performance measure information. In turn, summary performance measure information is provided back to each Directorate.	• Chapter 1, Section 1.3.6	DNT implements these requirements through the DNT ISMS Implementation Plan.	N Program implements these requirements through referenced DNT processes*.	PAY, FMC, PMC
214	(4)	Performance measure information is accessible to all employees.	• Chapter 2, Section 2.2.5	Institutional Process	N Program implements these requirements through referenced DNT processes*.	N/A
215	(5)	Each Directorate is responsible for having appropriate metrics to evaluate its safety performance.	• Chapter 2, Section 2.2.5	Directorate metrics are evaluated in the Annual ES&H Self-Assessment Report from the AD.	N Program implements these requirements through referenced DNT processes*.	PAY
216	6.7.1.4	<b>Processes Are Defined for Analyzing Problems, Identifying Root Causes, and Ensuring Corrective Actions Are Taken</b>				
217	(1)	Each Directorate is responsible for analyzing, tracking, trending, and correcting safety-related problems and deficiencies associated with its operations and facilities.	• Chapter 1, Section 1.3.3; • Chapter 2, 2.2.5	DNT implements these requirements through the DNT ISMS Implementation Plan and the DNT Self-Assessment Plan.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, and the OSPs and FSPs.	PAY, FMC, PMC
218	(2)	Each Directorate is to record and track safety-related deficiencies consistent with the provisions and thresholds specified in the ES&H Manual. Each Directorate is responsible for correcting deficiencies from requirements, as described in the ES&H Manual.	• Chapter 1, Section 1.3.3; • Chapter 2, Section 2.2.5; and • Supplement 2.03	DNT implements these requirements through the DNT ISMS Implementation Plan and the DNT Self-Assessment Plan.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, and the OSPs and FSPs.	PAY, FMC, PMC
219	(3)	Each Directorate is responsible for reporting, analyzing, tracking, and correcting safety-related occurrences consistent with the Laboratory's implementing procedure for occurrence reporting.	• Chapter 1, Section 1.3.3; • Chapter 4, Section 4.5.1; • LLNL Implementing Procedure for Occurrence Reporting.	DNT implements these requirements through the DNT ISMS Implementation Plan and the DNT ORP.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, the NPMP, and the OSPs and FSPs.	PAY, FMC, PMC
220	(4)	Serious safety-related incidents are to be formally reviewed and addressed consistent with the provisions of the ES&H Manual.	• Chapter 1, Section 1.3.3; • Chapter 4, Section 4.4.4; • Supplement 4.08; • LLNL Implementing Procedure for Occurrence Reporting.	DNT implements these requirements through the DNT ISMS Implementation Plan.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, and the OSPs and FSPs.	FMC, PMC
221	(5)	Each Directorate is to use medical surveillance examinations as appropriate to assess impacts of work on employee health.	• Chapter 1, Section 1.3.4 • Chapter 5, Section 5.2.3	DNT implements these requirements directly from the ES&H Manual and in FSPs.	N Program implements these requirements through referenced DNT processes*, and relevant N Program procedures.	PAY
222	(6)	Root cause analyses are to be performed for occurrences, formal incident analyses, and other safety-related issues deemed appropriate by the Directorate.	• Chapter 1, Section 1.3.3; • Chapter 4, Section 4.4.3; • Supplement 4.08; • LLNL Implementing Procedure for Occurrence Reporting.	DNT implements these requirements through the DNT ISMS Implementation Plan.	N Program implements these requirements through referenced DNT processes*, relevant N Program procedures, and the OSPs and FSPs.	FMC, PMC
223	6.7.1.5	<b>An Annual Independent Assessment of LLNL's ISMS Is Conducted</b>				
224	(1)	The ARO is responsible for conducting an annual independent assessment of the LLNL ISMS.	• Chapter 1, Section 1.3.9, ARO Sub-section	N/A	N/A	N/A

\* "Referenced DNT processes" are identified in the companion DNT column entitled "Directorate Implementing Procedures and Documents"

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225	(2)	The ARO is to periodically assess continued conformance of each Directorate Implementation Plan and any succeeding documentation with this Description.	• Chapter 1, Section 1.3.9, ARO Sub-section	N/A	N/A	N/A
226	(3)	The ARO assessment is to include an evaluation of each Directorate's implementation of the LLNL ISMS in accordance with the commitments and plans made in its Directorate Implementation Plan and any succeeding documentation.	• Chapter 1, Section 1.3.9, ARO Sub-section	N/A	N/A	N/A
227	<b>6.7.1.6</b>	<b>Lessons Learned Are Effectively Transmitted</b>				
228	(1)	The Laboratory's Lessons Learned Coordinator gathers information regarding potential Lessons Learned from internal and external sources based on experiences considered relevant to Laboratory operations. Potential Lessons Learned are reviewed with several ES&H organizations within the Laboratory, including members of the ES&H Working Group, before being distributed.	• Chapter 2, Appendix 2-D, "Lessons Learned Program"	Institutional Process. DNT AM supports this function.	N Program implements these requirements through referenced DNT processes".	N/A
229	(2)	Lessons Learned are to be shared to enhance operational safety and facilitate cost effectiveness. Individuals are to be encouraged to submit Lessons Learned.	• Chapter 1, Sections 1.3.3 and 1.3.5; • Chapter 2, Appendix 2-D, "Lessons Learned Program"	DNT implements this requirement through the DNT ISMS Implementation Plan.	N Program implements these requirements through referenced DNT processes", relevant N Program procedures, the NPMP, and the OSPs and FSPs.	PAY, FMC, PMC, RI
230	(3)	Lessons Learned are to be prepared and distributed whenever there is an opportunity to share a valuable new work practice or warn others of an adverse practice, experience, or product.	• Chapter 1, Section 1.3.5; • Chapter 2, Appendix 2-D, "Lessons Learned Program"	DNT implements this requirement through the DNT ISMS Implementation Plan.	N Program implements these requirements through referenced DNT processes", relevant N Program procedures, the NPMP, and the OSPs and FSPs.	PAY, FMC, PMC
231	(4)	Lessons Learned are transmitted by the Lessons Learned Coordinator to individuals identified by each Directorate's Assurance Manager. In addition, each Assurance Manager is responsible for ensuring transmission of Lessons Learned to other appropriate personnel.	• Chapter 2, Appendix 2-D, "Lessons Learned Program"	DNT AM performs this function.	N Program implements these requirements through referenced DNT processes".	N/A
232	(5)	Lessons Learned will be posted on the "LLNL only" website.	• Chapter 2, Appendix 2-D, "Lessons Learned Program"	N/A. This is a function of the LLNL Lessons Learned Coordinator.	N/A	N/A
233	(6)	The organization authorizing work is responsible for ensuring that applicable Lessons Learned maintained on the "LLNL only" website are considered during the process of authorizing work.	• Chapter 1, Section 1.3.4	DNT implements these requirements directly from the ES&H Manual.	N Program implements these requirements through referenced DNT processes", relevant N Program procedures, and the NPMP.	FMC, PMC
234	(7)	A review of Lessons Learned maintained on the "LLNL only" website is incorporated into each Directorate's self-assessment program to ensure continued utilization of relevant Lessons Learned.	• Chapter 1, Section 1.3.4	DNT implements these requirements through the DNT ISMS Implementation Plan.	N Program implements these requirements through referenced DNT processes", and relevant N Program procedures.	PAY, FMC, PMC
235	(8)	Lessons Learned considered of importance to DOE operations outside of LLNL are shared with the greater DOE community through the DOE listserver program and through DOE's website for Lessons Learned.	• Chapter 2, Appendix 2-D, "Lessons Learned Program"	N/A. This is a function of the LLNL Lessons Learned Coordinator.	N/A	N/A
236	<b>6.7.1.7</b>	<b>Improvements are to be Incorporated into the Organization's ISMS</b>				
237	(1)	Based on the information derived from the various performance monitoring and feedback processes, appropriate improvements are to be incorporated into the Directorate's implementation and continuation of the LLNL ISMS or the ES&H Manual, as appropriate.	• Chapter 2, Section 2.2.5	DNT implements these requirements through the DNT ISMS Implementation Plan and the DNT Self-Assessment Plan.	N Program implements these requirements through referenced DNT processes", and relevant N Program procedures.	PAY, FMC, PMC
238	<b>6.8</b>	<b>Conclusion</b>				
239	(1)	Unique issues and special cases not articulated in the set of core requirements in this Section are to be addressed by the identified management chain and taken to the responsible AD for resolution and then, as necessary, to the DDO.	• Chapter 1, Section 1.3.1	Unique issues associated with standards governing DNT work are incorporated into the DNT ISMS Implementation Plan.	N Program implements these requirements through referenced DNT processes", and relevant N Program procedures.	PAY, FMC, PMC

\* "Referenced DNT processes" are identified in the companion DNT column entitled "Directorate Implementing Procedures and Documents"